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COMMERCIAL CAR JOURNAL

A CHILTON PUBLICATION

THE MAGAZINE FOR TRUCK AND BUS FLEET OPERATORS



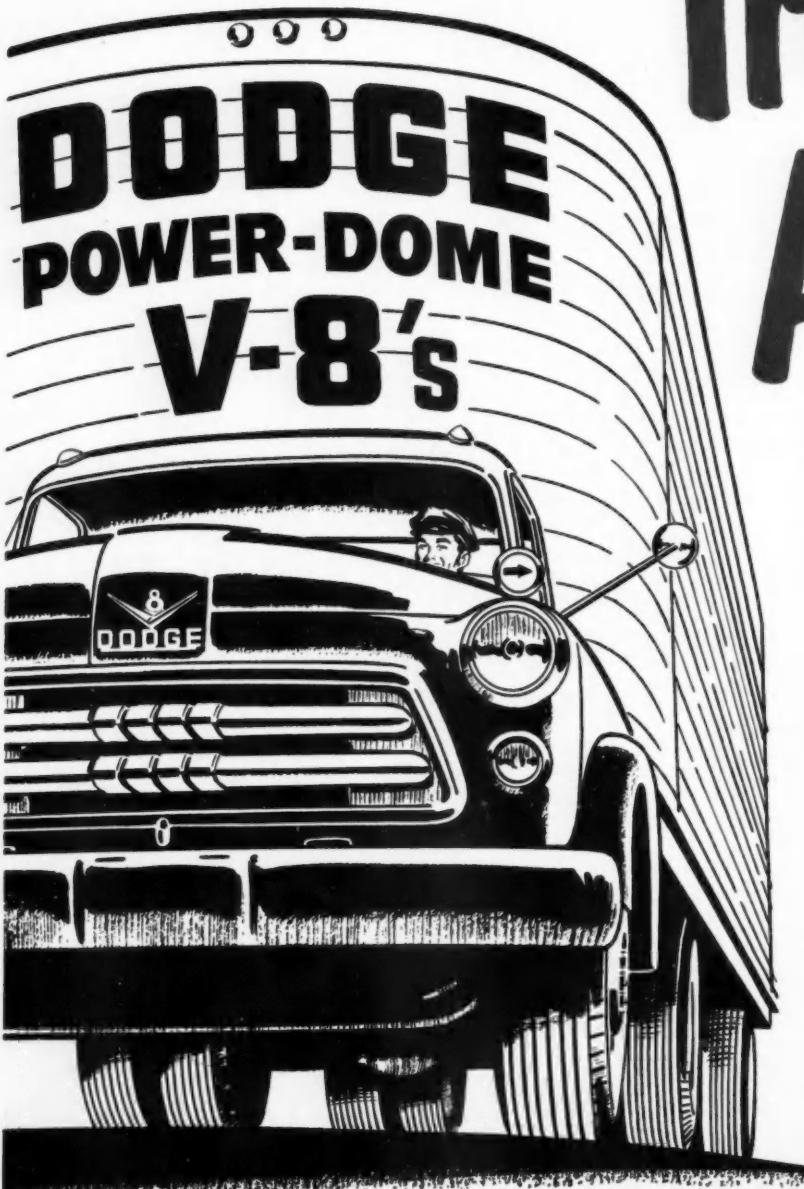
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From Accident Studies
Come Safe Driving Tips

Axles & Suspensions

Mobile Lube Units
Speed Vehicle Service

Mast* Powerful Trucks in America



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DEPARTMENTS



The only unusual thing about this typical highway scene is that all of the vehicles are fleet-operated. So to all of CCJ's readers who control the activities of more than 2½ million vehicles, this first of a new cover series is dedicated. In future issues we plan to salute many of the individual vocational activities which together constitute America's vast and vital commercial transportation industry.

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OVERLOAD

EDITORIAL COMMENT

Stragglers Need Everybody's Help

BY THIS TIME most every year we manage to squeeze in a few vacation days in Connecticut. This year we had an added treat on the way up. Wagging a small boat behind us we became "commercial," had to use the old Boston Post Road instead of the Parkway.

Running time from the George Washington Bridge to destination—about 100 miles east—was exactly 6 hours compared to the usual Parkway average of 2½ hours. That's as quick a way as we can think of to appreciate what the expanded road building program will mean to America. It's also a forceful way to get a quick insight as to why truck drivers' nerves sometimes run short. On the Boston-New York run they have to put up with it all the time!

But that's not the point of our story. On the porch of our little cottage we're just about ¼ mile from the Post Road (as the sea-gull flies across the salt meadow). From this vantage point on a quiet night we are just barely conscious of normal traffic moving on the Post Road. But about every 30 minutes we hear a mighty roar.

By late evening big trucks roll by at an average of about one every two minutes. So what the roar means is that approximately one out of every 15 trucks is way out of line in the muffler department. It doesn't take a decibel meter or a sone counter or a local enforcement officer with a screwball gimmick to measure this kind of noise. Of the total, many are quiet, but about one in 15 stinks!

Beyond the A No. 1 bad public relations job which these offenders are doing for the industry, they suggest still other deficiencies. As we have watched them close up, most of the really noisy ones sport other tell-tale signs. A bent fender, a poorly aimed headlight, dirty tail lights or a bent wheel suggest that maybe all their maintenance is poor—even dangerous.

Suddenly with arrival of the ICC report on the May 27 accident in San Francisco, our thoughts jump to Nob Hill. Driver-owner Bill McCandless and six pedestrians lay dead, others were injured and property damage came close to \$22,000. All this, says the ICC, because the vehicle was not properly maintained. Among other deficiencies were a burned air hose, totally inoperative parking brake, badly worn brake linings. The report doesn't say so, but we'll bet the muffler was shot too.

It's a tough problem. Already we can hear the righteous shout—these are just the little guys; it doesn't apply to the big ones. Fortunately that is largely true, though we've seen some mighty big names on a few bad offenders and some of the biggest names have loosely controlled owner-operators. But regardless of who owns the trucks, they are still an integral part of our industry.

We're frank to admit that we do not have the answer. But we'll welcome any and all ideas on the subject. And for the guy who comes up with a workable solution, we have a special "Croix de CCJ" waiting. Any takers?

Bart Rawson
Editor

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HOW EFFECTIVE ENGINE LUBRICATION SAVES FUEL ...



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At Your Service

TIMELY NOTES ON MAINTENANCE AND OPERATION

by MURRAY SIMKINS Managing Editor

Causes of Battery Failures

THE ELECTRIC Storage Battery Co., in studying more than 2000 worn out batteries of various makes and sizes, has tabulated the causes of failures under the following: 62 per cent of them had failed due to positive grid corrosion and overcharging; 20 per cent had failed as a result of sulphation; 16 per cent had container failures; 4 per cent were results of separator damage; and 1 per cent were a result of manufacturing defects.

Positive grid corrosion is actually the wearing out of the positive grid plates and is primarily the result of overcharging, Exide reports. Sulphation is a condition of the negative plates due to insufficient charging. It is caused by operating the battery continually at a low rate of charge or neglecting to charge it periodically while in stock.

On Smog Problems

JAMES C. ZEDER, engineering vice-president of Chrysler Corporation, recently gave an idea of the extensive studies being made by the automobile industry on the smog problem. In a talk before the National Air Pollution Symposium in Pasadena, Calif., Zeder noted that at present there are 26 research specialists working full time on various phases of the research program at seven companies.

Outlining the studies being made on reducing hydrocarbons in engine exhaust gases, Zeder observed that five companies have in various stages of development one or more devices to limit manifold vacuum or to reduce fuel flow during deceleration. Tests show that during deceleration small amounts of unburned fuel are most likely to be present in engine exhausts although it is not known yet whether these hydrocarbons contribute to the pollution problem.

In the continuing overall program, one company is concentrating on a fuel injection device to improve combustion, and several others are working on this approach. At least two companies have explored after-burners, and two are working on a catalytic muffler.

While the practical value of any of these measures is not yet proved, one of the most promising developed so far is a device which may reduce hydrocarbons in exhaust fumes by as much as 90 per cent during deceleration. However, further tests must yet be made on this device.

Tips from the Engine Rebuilders

SOME SHOPS have considerable trouble in cutting off cylinder sleeves to the correct length for engine blocks when the sleeve manufacturer does not provide a special cut length sleeve.

"We have found instead of using a hand or electric saw for this purpose, which usually ends up with an uneven edge, we use our brake drum lathe for this condition using a hubless drum attachment. Insert the proper adapter to fit the I. D. of the sleeve and a $\frac{3}{8}$ x 4 tool bit ground for cut off purposes using the straight end of the tool bar.

"Tighten nut to a snug fit, feed cut off tool slowly. Do not cut all the way through but leave approximately .010 and after removing the sleeve from the mandrel, a slight tap will cause the excess to drop free."

Here is another way of doing the same thing and the end result is a good looking machined job.

"Many of the sleeves we install are cut to about $\frac{1}{8}$ in. over the length required. Other sleeves can be rough cut leaving about $\frac{1}{8}$ in. over. Then we install the sleeve in the block

(TURN TO NEXT PAGE, PLEASE)

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At Your Service

Continued from Page 9

with the sleeve protruding about $\frac{1}{8}$ in. We then clamp our boring bar to the block and face off the excessive length and finish the sleeve with the same setting to the desired bore size. We made a special face off tool from a regular tool bit which was about $\frac{1}{4}$ in. longer than a regular bit. This gives a machined finish to the installed sleeve."

Rich Now Offers Replacement Valves

RICH MANUFACTURING CORP. is now producing heavy-duty valves for the replacement market. They feature two-piece construction and have stellite faces and head bands where the applications require them. The head and the upper part of the stem are made of austenitic steel of RMC specifications, providing resistance to pounding and the high temperatures characteristic of today's high compression engines.

Another feature of note is the welding of special heat bands around the upper top edge of the valve to reduce tendency to burn. This valve is recommended for applications where burning through the face from the top of the valve is a problem.

Ignition Timing and Spark Plug Life

By George M. Galster
Service Manager, Champion Spark Plug Co.

RECENT investigations have shown that proper ignition timing can greatly prolong spark plug life. This is especially true in highway service where high combustion chamber temperatures are developed during long periods of full throttle operation.

Accurate basic timing adjustments can only be made with a fast timing light while the engine is running at specified idle speed. In some instances, mechanics have attempted to set timing while rpm's were high enough to actuate the centrifugal advance. (Naturally, it is important to disconnect the vacuum line if a vacuum spark control is used.) It's also good practice to check breaker point spacing

(TURN TO PAGE 12, PLEASE)

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Ross Steers Them All

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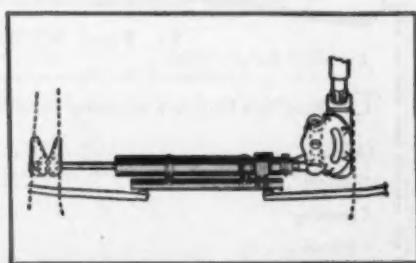
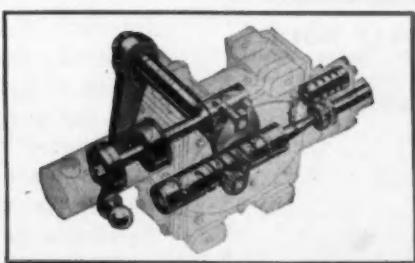
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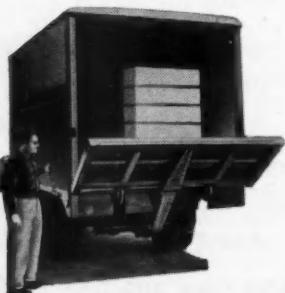
Accident records prove that just one claim by an employee, injured while loading or unloading a truck, can amount to far more than the total cost of mechanized handling. That's why more and more companies are installing St.Paul Frate-Gates on their trucks — to eliminate the costly hazard of hernias,

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J At Your Service

Continued from Page 10

before timing the engine; dwell angles too small will advance ignition timing.

If other timing methods are used, such as a vacuum gage or by road testing, serious over-advance generally results. As a matter of fact, some engines can be over-advanced as much as 10-15 deg. beyond manufacturer's specifications without audible detonation or knocking. Unfortunately, these same engines may show some slight increase in "pulling power" under these conditions. This probably explains why some drivers consistently readjust timing on the road after proper settings have been made in the shop. Such practices should be prohibited as they can lead to increased maintenance costs and higher fuel consumption.

Recent dynamometer tests of a well-known truck engine have revealed a very rapid rise in spark plug temperatures as basic timing was advanced beyond specifications. This was accompanied by only a negligible increase in power output.

Where temperatures may already be high during full load operation, this additional temperature rise can result in harmful preignition and may considerably shorten the service life of spark plugs and other engine components.

Normal manufacturing tolerances may produce variations in timing between cylinders in the order of 1-3 deg. If the variation exceeds this amount in the cylinder used for timing, the other cylinders obviously will be out of time by a like amount, and uneven plug burning patterns between cylinders may result.

This condition generally is traceable to excessive wear in the distributor shaft bearing. Usually it can be detected if the distributor is bench tested on a standard fixture. Some fleets, however, find it helpful to scribe additional timing marks on the flywheel during engine overhaul. These marks should be at 120-deg. intervals for a 6-cyl. engine and at 90-deg. intervals for an 8-cyl. engine. With these marks, it is then possible to check timing variation between cylinders without removing the distributor assembly.

Another difficulty which affects timing accuracy is vibration of distributor parts or looseness in the drive train. This often causes a flutter or erratic movement of the timing (TURN TO PAGE 14, PLEASE)

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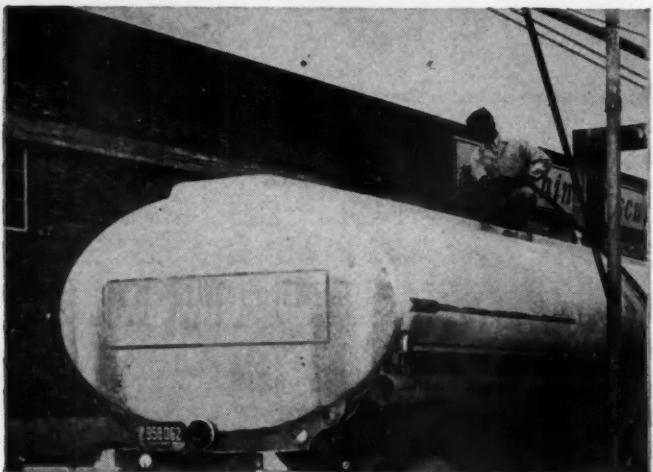
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What about open tanks? That's a job for the new Model 531 Interior Tank Cleaning unit illustrated at right. This truly unique unit operates on a mechanically controlled cycle that provides powerful cleaning, inch by inch. Four specially designed spray jets move in a vertical and horizontal pattern making possible complete big-tank cleaning at low cost.

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At Your Service

Continued from Page 12

mark at one or more engine speeds, and indicates that proper spark advance is supplied only part of the time. A fast timing light can be used to check for this condition over the range from idle to 2000 rpm; if the flutter covers more than a 3-deg. arc, at any speed, the distributor and/or drive train should be overhauled.

Even though basic timing is correctly set at idle, excessive ignition advance may still result under certain conditions because of poor adjustments in the centrifugal advance (or in the vacuum control if used).

In extreme cases, centrifugal advance mechanisms have been found partially inoperative while basic timing was advanced several degrees in an attempt to compensate for this condition.

For this reason, distributors should be checked periodically on a test stand—over their full speed range. If the advance at any rpm varies more than 1½ deg. from specification, adjustments are required since this error is doubled in terms of flywheel degrees. Here again, scribing an additional scale of degrees on the flywheel during overhaul permits checking of advance characteristics without removing the distributor from the engine.

Vacuum units especially should be checked for sticking or binding when vacuum is suddenly decreased. Lack of spark retard under this condition can cause harmful detonation during full throttle accelerations.

What's New?

A new non-evaporating type anti-freeze has been developed by Commercial Solvents Corp. and will be marketed under CSC's regular trade name, Peak Anti-freeze. It features a blend of rust inhibitors especially designed to stand up under the increasing temperatures and speeds of high compression engines.

The Lee Tire & Rubber Co. is offering a rim band of air-sealing rubber that prevents leaky rim rivets and rim well rust; two of the major problems that tubeless tire users have to face. When cemented to the base of the rim well, with special cement, the band seals leaky rim rivets and stops rust. Air Guard Bands also prevent dangerous rim rust.

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COMMERCIAL CA

New payload increases permitted

with **Trucktor® 3rd Axles and
Semi-Trailer Suspensions**



Trucktor 3rd AXLE

1. Unique Yoke—allows axle to track in making turns, easier steering and riding.
2. Torque Arm—disposes of brake reaction, eliminates axle hopping.
3. Rubber Bushed Spring Seat—provides easy ride, less maintenance, longer life, no lubrication necessary.
4. Chain-and-Sprocket Load Divider—increases load on drive axles for smooth start, few moving parts, only 2 lubrication points.

Pennsylvania's new law increases permissible payloads in 6-wheelers from 40000 lbs. to 45000 lbs. Semi-trailers can carry 60000 lbs. instead of 45000 lbs. Similar increases are being considered by the legislatures of other states, too.

Take advantage of these opportunities for increased payload profits by converting 4-wheel trucks to 6-wheelers with the Trucktor 3rd Axle or by using semi-trailers with Trucktor Tandem Suspensions. The superior quality of these Trucktor products is a logical result of many years of specialization in the design and manufacture of truck and trailer axles exclusively.

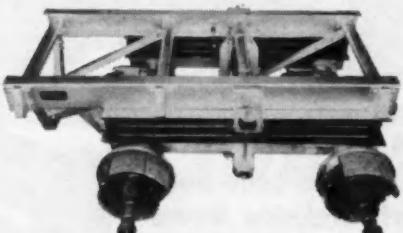
Trucktor features (see illustrations) will equip your units to carry more weight safely, with less maintenance . . . will provide smooth starts, easier steering and riding and longer service life.

Trucktor SEMI-TRAILER STEEL SPRING



1. Chain-and-Sprocket Load Divider—provides maximum flexibility on rough roads, increases service life.
2. Rubber-Mounted Yokes—tow axles, keep wheels aligned and on the ground, absorb all brake reaction.
3. Full-Floating Springs—rubber-mounted at axle, provide easy ride, carry load only, take no brake reaction.

Trucktor SEMI-TRAILER AIR SPRING



1. Two general air springs, Trucktor rubber mounted combination brake torque and radius yokes.
2. For easy ride and low frame height, which provides greater cargo space.

See your Truck Dealer, Trucktor Distributor, or write direct to the Trucktor factory.

THE TRUCKTOR CORPORATION Route 22, Mountainside, N. J.
Safety IS NO ACCIDENT—6-Wheelers ARE SAFER!

DATES and DOINGS

(For calendar of Fleet Training Courses, see page 126.)

AUGUST

15-17—Society of Automotive Engineers, Golden Anniversary West Coast Meeting, Hotel Multnomah, Portland, Ore.
19-20—Illinois State Truck Rodeo, Peoria, Ill.

SEPTEMBER

2—Iowa Motor Truck Assn., Annual Meeting, Izaak Walton Clubhouse, Des Moines, Iowa.
3-5—Mississippi Transport Assn., Annual Convention, Hotel Buena Vista, Biloxi, Miss.
8-10—Delaware, New Jersey, Pennsylvania Tri-State Truck Rodeo, Camden, N. J.
8-10—Indiana Motor Truck Assn., Annual Meeting, Hotel French Lick Springs, French Lick, Ind.
10—New Hampshire State Truck Rodeo, Manchester, N. H.
12-13—Wisconsin Motor Carriers Assn., Annual Meeting, Dell View Hotel, Lake Delton, Wis.
14-15—Central Motor Freight Assn., Annual Meeting, Palmer House, Chicago, Ill.
14-16—National Assn. of Motor Bus Operators, Annual Meeting, Drake Hotel, Chicago, Ill.

- 14-16—Tennessee Motor Transport Assn., Annual Meeting, Hermitage Hotel, Nashville, Tenn.
- 15-17—Idaho Motor Transport Assn., Annual Convention, Shore Lodge, McCall, Idaho.
- 18-20—Washington Motor Transport Assn., Annual Convention, Harrison Hot Springs Hotel, Harrison Hot Springs, British Columbia, Canada.
- 18-21—National Truck Leasing System, Annual Meeting, The Knickerbocker Hotel, Chicago, Ill.
- 22-23—Michigan Trucking Assn., Annual Meeting, Hotel Pantlind, Grand Rapids, Mich.
- 22-24—Automotive Parts Rebuilders Assn., Annual Convention and Trade Show, Fort Shelby Hotel, Detroit, Mich.
- 22-24—Kansas Motor Carriers Assn., Annual Convention, Hotel Broadview, Wichita, Kan.
- 22-24—Pennsylvania Motor Truck Assn., Fall Meeting, Bedford Springs Hotel, Bedford, Pa.
- 24—Massachusetts Motor Truck Assn., Annual Convention, Somerset Hotel, Boston, Mass.
- 26-29—American Transit Assn., Annual Convention, Hotel Statler, Boston, Mass.
- 27—Motor Transport Assn. of Connecticut, Annual Convention, Hotel Statler, Hartford, Conn.
- 29-30—National Automobile Transporters Assn., Annual Convention, Sheraton-Cadillac Hotel, Detroit, Mich.
- 29-Oct. 1—Virginia Highway Users Assn., Annual Meeting, The Cavalier Hotel, Virginia Beach, Va.

OCTOBER

- 1-6—Baking Industry Exposition (including truck and equipment exhibits), Convention Hall, Atlantic City, N. J.
- 10-12—Truck Body and Equipment Assn., Annual Convention and Exhibit, Morrison Hotel, Chicago.
- 12-14—Automotive Electric Assn., Regional Conference, Kansas City, Mo.
- 13-16—National Truck Rodeo, American Trucking Assns., National Armory, Washington, D. C.
- 17-21—American Trucking Assns., Annual Convention, Statler and Mayflower Hotels, Washington, D. C.
- 17-21—National Safety Council, National Safety Congress and Exposition, Chicago, Ill.
- 24-26—Automotive Electric Assn., Regional Conference, Los Angeles, Cal.
- 26-28—American Society of Body Engineers, Annual Technical Convention and Exhibit, Rackham Memorial Bldg., Detroit, Mich.
- 31-Nov. 2—Automotive Electric Assn., Regional Conference, Portland, Ore.
- 31-Nov. 2—Society of Automotive Engineers, Golden Anniversary Transportation Meeting, The Chase Hotel, St. Louis, Mo.

MORE PAY LOAD!

**Multiply trucking profits
through greater legal gross capacity**

For any truck



Road-proven by millions of truck miles under all conditions. Built to last! Exclusive ACME design—a smoother ride and less tire wear. **ACME DEALERS IN KEY CITIES.**

Net weight only 425 pounds

**6-wheel
Attachment**

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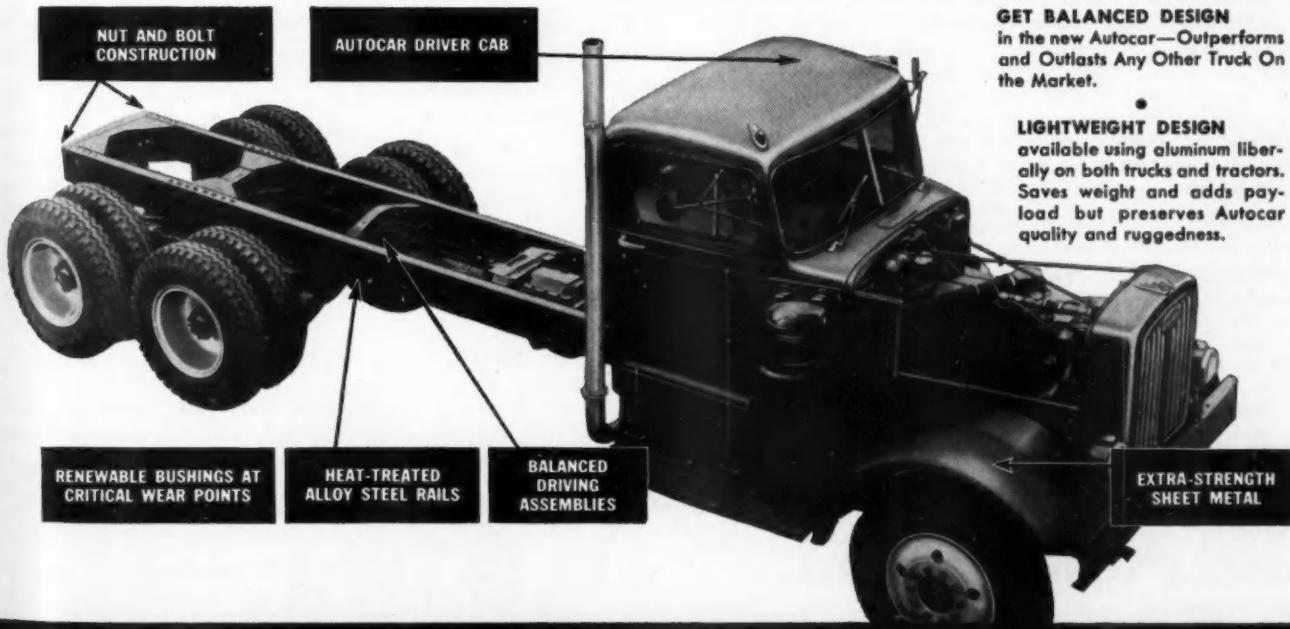
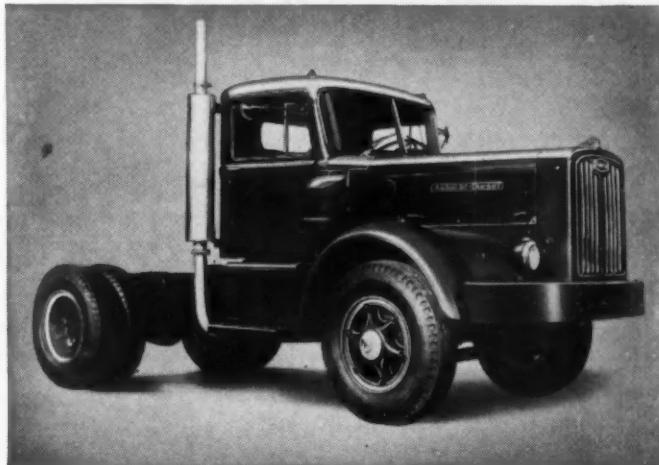
"here's what AUTOCAR QUALITY really means!"



ASK the man in the cab about Autocar and you'll find out he's sold on Autocar Quality. It really means something to him! And it pays off—for years. Engineered right to the most rugged operating conditions, Autocar can stand the rough going . . . the high mileages . . . the hard work.

Rugged Autocar power is matched by the sturdiest kind of frame, transmission, springs—everything about Autocar is engineered for dependability and performance.

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GET BALANCED DESIGN
in the new Autocar—Outperforms and Outlasts Any Other Truck On the Market.

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available using aluminum liberally on both trucks and tractors. Saves weight and adds payload but preserves Autocar quality and ruggedness.

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Have you seen
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Please send me a copy of the new Autocar Diesel Book.

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Laugh it off!

A WOLF IS A GUY WHO LOVES LIFE,
ENJOYS LIBERTY AND THE HAPPINESS
OF PURSUIT.

CCJ

Ignition Specialist: "Horrors, you say your daughter didn't get home until 3 o'clock this morning. My daughter was in by 11:30, last night."

Brake Specialist: "Okay, okay, but you see my daughter walked home."

CCJ

Nagging Wifey: "Didn't I see you kissing some cheap hussy at the party last night?"

Maintenance Supt.: "It was so dark, dear, I thought it was you."

Nagging Wifey: "Come to think it, maybe it was me. What time was it?"

CCJ

Baby Sitter: "And after Goldilocks ate the porridge, she went upstairs and saw three beds."

Truck Mechanic's Son: "Jumpin' Jeepers! That porridge musta been spiked."

CCJ

Moving Van Driver: "Hey, Lulu, whatcha mean substitootin' on me? I ordered punkin pie and you gimme apple."

Diner Waitress: "You wouldn't know the difference anyhow, big boy. All the pies are punk in here."

CCJ

YARDBIRD, OUR TRAILER SWITCHMAN, SAYS: "IF WOMEN DIDN'T HAVE THOSE KIND OF CURVES, MEN WOULDN'T HAVE THOSE KIND OF ANGLES."

Diner Waitress: "I'll have you know, sir, I'm a good girl."

Diesel Truck Driver: "Who asked you?"

Diner Waitress: "No one."

Diesel Truck Driver: "No wonder you're a good girl!"

CCJ

Cuddly Cutie: "You big, handsome hunk of man, you. Would you like to see where I was operated on for my appendix?"

Freight Loader: "No, babe, I hate hospitals with a passion."

Cici Jay



"Do you have to come in here and call 'Yoo Hoo' every time you pass by?"

STENO LOU: "HAVE YOU EVER BEEN A MAID OF HONOR?"

STENO SUE: "OH, SURE . . . BEFORE I MET TOM."

CCJ

Safety Sadie: "Cora, every night before I go to sleep I think of all the nasty things I've said during the day."

Catty Cora: "But, darling, how can you get along on so little sleep!"

CCJ

First Diner Waitress: "You know that redhead who drives for Fleety-Fleet? He's so original. He says things to me I have never heard before."

Second Diner Waitress: "What? Has he asked you to marry him?"

CCJ

The Commercial Agent for Fleety-Fleet Motor Express, trying to obtain a routing order on a big movement of woolen piece goods, was told to see the Traffic Manager of a large importing firm, a man by the name of Sexour. At the third office he visited, he found an especially good-looking receptionist. He smiled engagingly as he asked: "Do you have a Sexour here?"

"Are you kidding?" the cute receptionist replied. "We don't even take a coffee break!"

CCJ

SHOP FOREMAN'S WIFE: "MY HUSBAND HAS NO IDEA WHAT I GO THROUGH WHEN HE SNORES."

MECHANIC'S MISSUS: "MINE NEVER MISSES HIS SMALL CHANGE, EITHER."

Resume Work

When fast starts mean lives or dollars -

Globe



batteries deliver...

EVERY TIME!

Emergency vehicles . . . heavy machinery . . . fleets of trucks — the on-the-job performance of Globe batteries is the same: dependable . . . reliable . . . unfailing! That's why more and more fleet and truck operators insist upon Globe batteries in their equipment.

Every Globe battery is the result of continuous product research and development . . . plus the finest, most scientific methods of manufacture. Each Globe battery has the advantage of nearly half a century of battery-engineering experience . . . 33 years of manufacturing batteries for autos, trucks, heavy machinery and army tanks. And the most important result of this is the performance you get with a Globe battery.

The records prove that Globe batteries can take it, through rugged working conditions and roughest weather. They prove that Globe batteries are packed with reserve power to keep engines "spinning" until they start.

Make sure that you have the *right* batteries — Globe batteries — in your vehicles from now on. Specify Globe . . . the batteries that are built better to serve better.

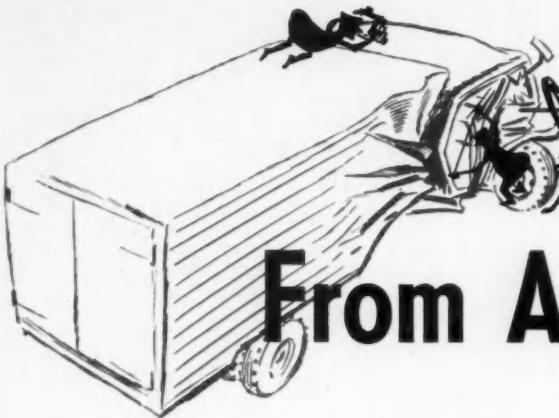
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FOR FAST SERVICE THERE ARE 16 GLOBE BATTERY PLANTS — ATLANTA, GA. • BOSTON, MASS. • CINCINNATI, OHIO • DALLAS, TEXAS • EMPORIA, KANSAS • HASTINGS-ON-HUDSON, N. Y. • HOUSTON, TEXAS • LOS ANGELES, CALIF. • MEMPHIS, TENN. • MILWAUKEE, WIS. • MINERAL RIDGE, OHIO • OREGON CITY, ORE. • PHILADELPHIA, PA. • REIDSVILLE, N. C. • SAN JOSE, CALIF. • AJAX (TORONTO) CANADA.

if it's petroleum-powered

there's a **GLOBE-BUILT BATTERY** ... right from the start



From Accident Studies

Con

WE MUST UNDERSTAND the real causes of accidents to improve the nation's safety record. This calls for treating accidents like other deadly epidemics. We must recognize that most accidents have more than one cause, and determine their true causes by careful analysis.

Three factors may contribute to an accident: the driver, his vehicle and the environment or driving conditions. A study of the inter-relation of these factors, on which prevention measures can be based, requires a team approach combining the findings of the biological, engineering and social sciences.

Although most highway accidents are charged to human limitations, research studies have failed to reveal close relationships between accident-fre-

quency and specific human faults such as poor vision, slow reaction, limited side vision, etc. Some factors such as low intelligence, limited social responsibility and youthfulness have been shown to be more important than others, but attempts to relate accidents to specific human variables have had negative results.

The most recent studies have shown temperamental factors and personal adjustments to be more significant in highway safety than sensory, psychomotor or mental abilities. And, while sure ways of identifying potential accident repeaters have not been found, methods based on the concept that "a man drives as he lives" have proved successful in determining safe drivers.

Accident Prone?

Despite the widely held theory that many accident repeaters are "accident prone," it is suggested that more can be learned from analyzing a repeater's accidents in terms of his relationship to the circumstances of the accident than from efforts to prove that he is accident prone. Without strict controls over the conditions of accident liability, we cannot draw positive conclusions about accident proneness.

66

About This Article
COMMERCIAL CAR JOURNAL welcomes this opportunity to present Dr. McFarland's summary of the current status of accident prevention research. For fleet safety men, this is "must" reading. For all highway users, it contains much food for thought.

Many of the studies cited by Dr. McFarland have been conducted during the past six years as part of a board research program being carried out at the Harvard School of Public Health. This program was initiated by the American Trucking Assns., the National Assn. of Motor Bus Operators, and the National Assn. of Automotive Mutual Insurance Companies. Since 1951 the Commission on Accidental Trauma of the Armed Forces Epidemiological Board, Department of Defense, has sponsored similar research.

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Accidents can't be traced to specific human variables

Not all accident repeaters are accident-prone and a truly accident-prone driver might manage to remain accident free. Accurate records and careful research should reveal accident repeaters and provide a starting point for establishing control measures through medical or training aids.

More study of driver selection methods may yield results

As yet, driver selection methods have not yielded impressive results in accident reduction. If driving is subjected to modern methods of job analysis, it is possible that better selection procedures may be developed. At present, studies have shown that driver training which em-

phasizes safe practices and "defensive driving" have a significant effect on lowering accident rates.

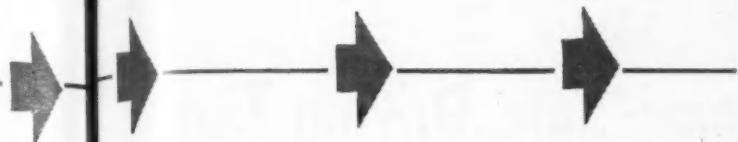
Driver training should include practice in recognizing dangerous situations as they develop and in handling vehicles under adverse conditions. There is a need for training devices in which drivers may

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A "near acci dent" signal an eventual accident

It is possible to the drive some drivers same potential accidents ma where and un likely to occur can be prepared measures wit

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Observation fail to take su



Come Safe Driving Tips

Based on a paper by

Dr. Ross A. McFarland

Harvard School of Public Health

CREDITS: The accompanying article is a condensed version of a paper presented by Dr. McFarland at the Summer Meeting of the Society of Automotive Engineers. The complete paper, entitled "Human and Environmental Factors of Automobile Safety," may be obtained from the SAE. Additional material on the subjects covered in the paper is available in a series of four reports on "Human Factors in Highway Transport Safety" published by the Harvard School of Public Health, 695 Huntington Ave., Boston, Mass.

practice correct responses in routine and emergency conditions so that these responses may become automatic in behind-the-wheel performance without incurring danger.

Studies should be made of near-accidents as well as actual accidents to determine the content and emphasis needed in driver-training and safety education programs. If a near-accident is common at a certain location or under certain conditions, it may be expected that similar types of real accidents will occur.

It is possible that some near-accidents are related to the driver's personality and aptitude, or that some drivers tend to get involved repeatedly in the same potentially dangerous situation. Study of near-accidents makes it possible to alert the driver to where and under what conditions accidents are most likely to occur, so he can be especially cautious and can be prepared to take the necessary defensive measures without hesitation or bad judgment.

Fail to Take "Defensive Action"

Observations thus far indicate that many drivers fail to take such "defensive action" and tend to wait

for the other driver to allow for margins of safety. Accidents occur when neither driver takes corrective action to avoid them.

Driver behavior and efficiency can be affected by many temporary states and conditions which should be studied carefully. Among these are:

The effects of fatigue on drivers vary widely

In the case of truck drivers, most accidents (about 60 per cent) are found within the first three hours of driving rather than near the end of a day's run. The amount and quality of previous rest, time since last rest, the nature of activities prior to driving, and concurrent emotional stress are some of the complicating factors.

Effect of Fatigue

A clearer understanding of fatigue's effect on drivers can be gained from the concept of "skill fatigue." A complex, skilled performance such as driving has been shown to deteriorate after lengthy, continuous operation or under fatigue-producing conditions.

At first, reaction time is affected. While in later stages gross mistakes may be made, at first it is more likely that the right response will be made, but either too quickly or too slowly.

As fatigue increases, the driver responds to some things, while others are ignored and important responses are omitted. While the operator thinks he is doing as well as previously, he is actually operating less skillfully but fails to recognize this fact. He may also fail to recognize the seriousness of his situation. Extremely fatigued drivers have been known to

(TURN TO NEXT PAGE, PLEASE)



From Accident Studies Come Safe Driving Tips

"see things" and have accidents while trying to avoid obstacles which they "saw" but which were not present. Confidential interviews with drivers showed that such incidents are likely to occur on long-distance runs, at night and when driver activity level is low and he feels a need for sleep.

Alcohol: A known factor in highway accidents, alcohol has a temporary effect, varying widely in extent among individuals. Its effect is to tend to impair various sensory, psychological and psychomotor functions. Its effect on driver judgment and standards of performance is particularly important.

Emotions . . .

Drugs . . . cause accidents

More information is needed about the part played by emotional disturbances and temporary emotional states. Military establishments and large commercial fleets could probably collect the needed data. Isolated vehicular accidents have been attributed to emotional stress or driver preoccupation with anxieties.

Drugs and Medications: More information is also needed on the principal action or side effects of commonly used medications and drugs on driver performance. For instance, some preparations ordinarily prescribed for relaxation and sleep have a sedative effect for up to 24 hours. Disturbances of vision and sense of balance and episodes of drowsiness have been reported by drivers who have used pain relievers or cold preparations. Research at the University of Rochester has suggested that a number of medical preparations have effects on driver attitude and behavior which may be of importance in highway safety.

Equipment Design

Highway safety can be improved if automotive equipment designers will work with biologists and learn to recognize human capabilities and limitations, considering instruments and controls as extensions of the driver. If this is done, fewer accidents should result and extensive redesigning of equipment after it is put into use should be eliminated. Unless it is done, it is hardly fair to blame so many accidents on human failure.

While design faults are not the source of a high percentage of accidents, if a major design deficiency exists, eventually it will cause an accident. Even

design elements which result in minor inconveniences and discomforts can combine with fatigue in increasing the possibility of an accident. Furthermore, even though a driver may normally overcome design failures, he may not be able to do so in an emergency. For these reasons, advance analysis of driver error in relation to design offers a field in which specific and immediate gains may be made in reducing accidents.

Design Faults Cause Accidents

This concept of design failure is relatively new and unexplored in the automotive field—partly because accident reports have failed to identify this source of accidents. Design failures may be so subtle that those responsible for reporting accidents may not even be aware of them, particularly if they are not trained to recognize such failures.

Studies of design features that cause crash injuries offer considerable promise in reducing fatalities. Research projects are now being carried out in this field.

Do design failures cause more accidents than reports show?

At the Automotive Crash Injury Project at Cornell Medical College, almost 2000 case histories a year are now being accumulated from seven states.

Some of the findings: one or more front doors opened in from 44 to over 50 per cent of the injury-producing accidents; more doors opened when the vehicles rolled over; when front doors opened, one out of four occupants was completely thrown from the car; risk of sustaining moderate to fatal injuries was approximately twice as great when an occupant was thrown completely through opened doors. Studies have also shown that restraining devices, such as seat belts, offer a promising field for those concerned with highway safety.

Vehicle Environment

Design features which affect the vehicle's physical environment variables also influence the driver. These variables include temperature, humidity, ventilation, carbon monoxide, noise, vibration and deceleration. Each of these factors has well-defined ranges of comfort, discomfort and harmfulness.

Temperature, humidity and ventilation: These three must be considered as a unit since a change in one of them will affect the other two as far as

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Research Projects Offer These Suggestions

For Drivers

Practice "defensive" driving. Don't expect other drivers to make up for your mistakes. Be extra critical of your driving when you're tired. Fatigue can make you think you're driving better than you really are. Drinking and driving can cause accidents. Certain medical preparations can affect your driving ability. Don't be misled into a false sense of security by long periods of driving without a critical incident or near-accident.

For Driver Trainers and Supervisors

Temperamental factors and personal adjustments are significant keys in driver selection—a man drives as he lives. Concentrate on accident-repeaters rather than "accident prone" drivers. Emphasize safe practices and defensive driving in training programs; train drivers to recognize

dangerous situations and to handle vehicles under adverse conditions. Teach drivers to air vehicles which have been standing with idling engines.

For Vehicle Designers

Design equipment in recognition of human abilities and limitations. Study design failure as a factor in accidents. Find methods to reduce noise and vibration in commercial vehicles. Develop better brakes.

For Traffic Administrators

Eliminate known hazards from highways. Use road materials which provide adequate friction and reflective qualities. Identify danger spots by statistical and quality control methods, then analyze these spots in terms of human variables. Use traffic law enforcement to reduce accidents.

comfort is concerned. Most important implication of studies of the effect of atmospheric variables on driver performance is that human performance deteriorates significantly at temperatures equivalent to 83 deg F at 100 per cent humidity. Fortunately, many of these variables are now controlled by adequate heating, air conditioning and ventilating equipment.

Carbon monoxide: Possibility of carbon monoxide poisoning can rarely be eliminated in vehicle operation. Quite small amounts will be rapidly absorbed, resulting in a lack of oxygen which may be at first unnoticed. Initial reactions consist primarily of lowered attention, difficulty in concentration, slight muscular incoordination, sleepiness, and a mental and physical slowdown. These are not permanently injurious, but they could easily involve a driver in hazardous situations. Higher concentrations may result in severe headaches, dizziness, nausea, and vomiting, followed by a loss of consciousness and ultimately death.

Dangerous concentrations of carbon monoxide may result from leaks in the exhaust system. Exposure to 0.10 per cent carbon monoxide can be dangerous after one hour. Even as little as 0.01 per cent, although having no noticeable effects for several hours, should not be permitted over long periods. In general, exhaust systems are now resistant to the loss or leakage of fumes. Drivers of commercial vehicles should, however, be taught to properly air vehicles left standing with idling motors.

Noise and vibration: Noise and vibration levels in most passenger automobiles are sufficiently low to require virtually no design changes. This is in marked contrast to some commercial vehicles in which noise reduction constitutes a real challenge to automotive engineers.

Weather: Atmospheric conditions also affect highway safety. Rain and snow usually result in less travel but with more accidents per unit of travel. Reduced visibility is probably a human-related variable in bad-weather accidents. Other human variables include the driving practices employed on slippery surfaces. Bad-weather accidents can be reduced through use of road materials which provide adequate friction and through training drivers how to cope with all driving conditions. Although bad-weather accidents are in the minority, automotive engineers should not disregard the need for still better braking systems.

Many highway accidents are caused by highways

Driver Capabilities: Highways on which known hazards have been eliminated usually have lower accident rates than unimproved roads bearing comparable traffic. Data on human characteristics have influenced some of these improved designs. Further study is needed of the effects of sight distances, perception, decision and reaction times at different speeds. Location of accidents by means of statistical and quality-control offers a method of identifying highway sites and features where analysis in terms of human variables may contribute to a solution to accident problems.

Sometimes highway design improvements have resulted in accident problems of a new sort because driver behavior has not been sufficiently analyzed. Continuous driving on modern high-speed throughways may dull drivers' awareness of speed. After driving at high speed for some time, drivers become adapted to it so they no longer realize how fast they are moving. In one instance, warning signs were tried as a solution to this problem but they were not effective.

Over-confidence may also cause accidents. When a series of accidents on the Pennsylvania Turnpike

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Tailored Forms Cut Time

Vermont Transit uses pre-printed inspection forms for each bus model,

WHEN EVEN our local buses pull in for a maintenance inspection, time is limited. On the inter-city runs it may be only a layover of 25 minutes to an hour or two. Yet maintenance has to be good. We may not see one of our long haul jobs again for 2000 miles.

So we tackled the problem of shortening time in the shop by increasing (if necessary) time in the bookkeeping department. We decided that every mechanic must know exactly what to do without taking time out to look up the records or check-off a complicated preventive maintenance form.

The solution came in the form of a series of 10 pre-printed 3 x 8-in. cards which specified the exact job to be done in each inspection for each bus model. In addition

By Dana L. Haskin

Vice-President, Vermont Transit Co.
Burlington, Vt.

there is (1) a combined driver report card listing mileages, fuel and oil consumption and 51 possible defects on the front and (2) a mechanics daily inspection listing 19 items on the back. And of course there is a simple shop ticket to cover all other contingencies.

The Forms Pay Off

These 12 printed forms make the system sound complicated. But an unexpected bonus came from the fact, that once organized and well understood, the system actually saves time in the records department as well as in the shop.

Up in the balcony shop office Ken Bessette, who gets credit for developing most of the paper work, has a series of more or less standard master forms. From his "mileage, fuel and maintenance" guide sheet he gets a day-by-day picture of the operation of each vehicle. This provides the key to all regular inspections which include everything from what we call an "oil dump" (no other work) to a 50,000 mile check, with lubrication, oil filter changes and various fixed mileage inspections.

Here's how it works:
In a well organized file, the

Forms are printed on thin cardboard, measure 3 1/4 x 8 in. First is an "oil dump" for all models followed by normal oil change for 3 specific models. "Shackle" is straight grease job

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Standard inspect
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mile forms for l
long haul, and G
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OIL CHANGE RECORD		OIL CHANGE RECORD		OIL CHANGE RECORD	
(DO ALL ITEMS CHECKED)		(DO ALL ITEMS CHECKED)		(DO ALL ITEMS CHECKED)	
<input type="checkbox"/> Change Motor Oil _____		<input type="checkbox"/> Change Motor Oil _____		<input type="checkbox"/> Change Motor Oil _____	
<input type="checkbox"/> _____		<input type="checkbox"/> _____		<input type="checkbox"/> _____	
<input type="checkbox"/> _____		<input type="checkbox"/> _____		<input type="checkbox"/> _____	
<input type="checkbox"/> _____		<input type="checkbox"/> _____		<input type="checkbox"/> _____	
<input type="checkbox"/> Remove Crankcase Inspection Plate and Clean Oil Pump Strainer Screen _____		<input type="checkbox"/> Remove Crankcase Inspection Plate and Clean Oil Pump Strainer Screen _____		<input type="checkbox"/> Remove Crankcase Inspection Plate and Clean Oil Pump Strainer Screen _____	
<input type="checkbox"/> _____		<input type="checkbox"/> _____		<input type="checkbox"/> _____	
<input type="checkbox"/> _____		<input type="checkbox"/> _____		<input type="checkbox"/> _____	
<input type="checkbox"/> Remove and Change Rocker Arm Strainer Screen _____		<input type="checkbox"/> Remove and Change Rocker Arm Strainer Screen _____		<input type="checkbox"/> Remove and Change Rocker Arm Strainer Screen _____	
<input type="checkbox"/> Tighten Head and Rocker Board _____		<input type="checkbox"/> Tighten Head and Rocker Board _____		<input type="checkbox"/> Tighten Head and Rocker Board _____	
<input type="checkbox"/> Adjust Tappets _____		<input type="checkbox"/> Adjust Tappets _____		<input type="checkbox"/> Adjust Tappets _____	
Qts. of Oil Used _____		Qts. of Oil Used _____		Qts. of Oil Used _____	
FOR SHOP RECORDS		FOR SHOP RECORDS		FOR SHOP RECORDS	
DATE COMPLETED _____		DATE COMPLETED _____		DATE COMPLETED _____	
MILEAGE READING _____		MILEAGE READING _____		MILEAGE READING _____	
VERMONT TRANSIT CO., INC.		VERMONT TRANSIT CO., INC.		VERMONT TRANSIT CO., INC.	

SHACKLE

VERMONT TRANSIT CO., INC.	
Bus No. _____	Date _____
Shackle Mile Lubrication Record	
Special Notes:	
CHASSIS GREASE	
SOLID	<input type="checkbox"/> Universal Joints _____
	<input type="checkbox"/> Front Drive Bearings _____
PACK	<input type="checkbox"/> Spindle-Flea-Shackles _____
	<input type="checkbox"/> Steering Joints _____
ONE SHOT	<input type="checkbox"/> All Linkages-Ball Joints _____
	<input type="checkbox"/> Brake Cams _____
	<input type="checkbox"/> Clutch Release Bearing _____
GEAR LUBE	
DO NOT	<input type="checkbox"/> Transmission _____
OVERFILL	<input type="checkbox"/> Differential _____
	<input type="checkbox"/> Steering Box _____
CUPS	
SOLID	<input type="checkbox"/> Generator _____
PACK	<input type="checkbox"/> Distributor _____
	<input type="checkbox"/> Water Pump _____
OIL	
REFILL	<input type="checkbox"/> Starter _____
	<input type="checkbox"/> Shift Boxes _____
BRAKES	
	<input type="checkbox"/> Adjust _____
BATTERIES	
	<input type="checkbox"/> Check and Recharge _____
SEDIMENT BOWLS	
	<input type="checkbox"/> Drain _____
AIRTANKS	
	<input type="checkbox"/> Drain _____
Form 10-24-14 U.C.P.	

in Shop

finds it speeds records, too



printed cards are indexed and colored for easy identification. When a particular bus, of particular make and type, is due for inspection, the proper card is pulled. The bus number is written in, and the card sent to the fuel island in the daily inspection lane. It's put on the windshield and acts as a shop ticket. It's as simple as that. No writing, no filling in, no time wasted anywhere. When the job is completed the card goes back to the balcony office to be recapped on the master record.

Of course when other work is
(TURN TO PAGE 122, PLEASE)

Standard inspection forms are tailored to specific units. In center are 4000-mile forms for Flexible, ACF and GM long haul, and GM local, in that order. The last is for 50,000-mile inspection

In Burlington, Vermont, the traveller soon learns that if he wants to go anywhere, other than in his passenger car, he goes by bus. If he chooses to go by rail, Vermont Transit takes him to Essex Junction, the nearest railhead. If he wants to go by air, Burlington Rapid Transit hauls him to the local airport about 5 miles away. Locally BRT has four major routes. With appropriate variations and good schedules, they blanket the town and surrounding suburban areas.

But if our traveller wants to go almost anywhere on the highway, Vermont Transit blankets the northern New England area. Over its own lines it has service from Plattsburg, N. Y. and Burlington, Vt., to Portland, Me., Albany, N. Y., Pittsfield, Springfield and Boston, Mass., and all way points. In combination with Central and New England Greyhound, it offers through service from Montreal to Boston and Portland and from Burlington to New York. Several featured through schedules are equipped with Vermont Transit's new air suspension General Motors coaches, the 4104's.

The two operations are a jointly owned property operating a total of 65 buses. Of these, 47 are assigned to Vermont Transit and range from a group of ACF IC 41's to the new GM's with a mixture of Flexibles and GM 4101's and 4103's in between. Burlington Rapid Transit's 18 coaches are nearly all GM model TDH 3612's. All of them are serviced well in the single headquarters shop located on the outskirts of Burlington.

VERMONT TRANSIT CO., INC.		VERMONT TRANSIT CO., INC.		VERMONT TRANSIT CO., INC.		4,000 MILE INSPECTION FOR GMC TD NO. 3612 COACHES	
Bus No. _____	Date _____	Bus No. _____	Date _____	Bus No. _____	Date _____	Bus No. _____	Date Issued _____
2,000-MILE LUBRICATION RECORD		4,000-MILE LUBRICATION RECORD		4,000-MILE LUBRICATION RECORD		4,000 MILE INSPECTION FOR GMC TD NO. 3612 COACHES	
SPECIAL NOTE:						Please air fill on June	
CHASSIS GREASE <input type="checkbox"/> Universal Joints <input type="checkbox"/> Pin Drive Bearings <input type="checkbox"/> Spring-Pin-Shockles PACK <input type="checkbox"/> Steering Joints <input type="checkbox"/> All Linkages-Ball Joints ONE <input type="checkbox"/> Brake Cases SHOT <input type="checkbox"/> Clutch Release Bearings		CHASSIS GREASE <input type="checkbox"/> Universal Joints <input type="checkbox"/> Pin Drive Bearings <input type="checkbox"/> Spring-Pin-Shockles PACK <input type="checkbox"/> Universal Joints <input type="checkbox"/> Steering Joints <input type="checkbox"/> All Linkages-Ball Joints ONE <input type="checkbox"/> Brake Cases SHOT <input type="checkbox"/> Clutch Release Bearings		CHASSIS GREASE <input type="checkbox"/> Universal Joints <input type="checkbox"/> Pin Drive Bearings <input type="checkbox"/> Spring-Pin-Shockles PACK <input type="checkbox"/> Universal Joints <input type="checkbox"/> All Linkages-Ball Joints ONE <input type="checkbox"/> Brake Cases SHOT <input type="checkbox"/> Clutch Release Bearings		CHASSIS GREASE <input type="checkbox"/> Universal Joints <input type="checkbox"/> Pin Drive Bearings <input type="checkbox"/> Spring-Pin-Shockles PACK <input type="checkbox"/> Universal Joints <input type="checkbox"/> All Linkages-Ball Joints ONE <input type="checkbox"/> Brake Cases SHOT <input type="checkbox"/> Clutch Release Bearings	
GEAR LUBE <input type="checkbox"/> DO NOT Transmission <input type="checkbox"/> OVERFILL Differential <input type="checkbox"/> Steering Box		GEAR LUBE <input type="checkbox"/> DO NOT Transmission <input type="checkbox"/> OVERFILL Differential <input type="checkbox"/> Steering Box		GEAR LUBE <input type="checkbox"/> DO NOT Transmission <input type="checkbox"/> OVERFILL Differential <input type="checkbox"/> Steering Box		GEAR LUBE <input type="checkbox"/> DO NOT Transmission <input type="checkbox"/> OVERFILL Differential <input type="checkbox"/> Steering Box	
CUPS <input type="checkbox"/> SOLID Generator <input type="checkbox"/> PACK Distributor <input type="checkbox"/> Water Pump		CUPS <input type="checkbox"/> SOLID Generator <input type="checkbox"/> PACK Distributor		CUPS <input type="checkbox"/> SOLID Generator <input type="checkbox"/> PACK Distributor <input type="checkbox"/> OIL Starter OIL <input type="checkbox"/> REPAIR Starter BRAKES <input type="checkbox"/> Adjust		CUPS <input type="checkbox"/> SOLID Generator <input type="checkbox"/> PACK Distributor <input type="checkbox"/> OIL Starter OIL <input type="checkbox"/> REPAIR Starter BRAKES <input type="checkbox"/> Adjust	
BATTERIES <input type="checkbox"/> Check and Refill		BATTERIES <input type="checkbox"/> Check and Refill		BATTERIES <input type="checkbox"/> Check and Refill		BATTERIES <input type="checkbox"/> Check and Refill	
SEDIMENT BOWLS <input type="checkbox"/> Drain		SEDIMENT BOWLS <input type="checkbox"/> Drain		SEDIMENT BOWLS <input type="checkbox"/> Drain		SEDIMENT BOWLS <input type="checkbox"/> Drain	
AIRTANKS <input type="checkbox"/> Drain		AIRTANKS <input type="checkbox"/> Drain		AIRTANKS <input type="checkbox"/> Drain		AIRTANKS <input type="checkbox"/> Drain	
<small>DO NOT OPERATE ON OIL THERMOVALVE</small>		<small>DO NOT OPERATE ON OIL THERMOVALVE</small>		<small>DO NOT OPERATE ON OIL THERMOVALVE</small>		<small>DO NOT OPERATE ON OIL THERMOVALVE</small>	
Form 1B		Form 1B		Form 1B		Form 1B	
<small>PRINT USA FORM 13-53 G.C.P.</small>							
<small>FOR SHOP RECORDS</small>							
<small>DATE COMPLETED _____</small>							
<small>MILEAGE READING _____</small>							
<small>VERMONT TRANSIT CO., INC.</small>							



Boutell's Incentive Plan

Drivers and mechanics too get into this fleet

"Road failures are expensive. In my opinion the dollar cost of emergency road repairs is at least double our own shop cost. Here are a few reasons. 1. Our labor cost is from 25 to 50 per cent lower than the rate charged by outside repair shops. 2. During the vehicle down time we must pay an hourly fee to the driver. 3. The necessary parts can be purchased much cheaper in our own shop. 4. We can install the parts best suited to do the job and eliminate trouble from inferior brands. 5. Repairs conforming to our own maintenance standards have more potential miles. 6. Other expenses enter, such as long distance phone calls, wrecker or towing service, etc. 7. There is a chance of cargo pilferage when equipment is left on the road unattended. 8. There is a safety hazard when a vehicle is laid up on the road. 9. Stalled equipment is bad for public relations. 10. An idle vehicle and its load pays no revenue and contributes to poor customer relations.

"Here in summary are some of the advantages of this close contact with road failures. 1. We can pass information along to the E and M Council of ATA so that committee action and work with manufacturers can eliminate weak spots in specific truck models. 2. The records point out certain drivers who are possibly contributing to excessive road failures. Then retraining or weeding out of inefficient drivers can reduce operating costs. 3. PM practices can be tailored to the specific problems pointed up through these reports. Thus emphasis can be placed on those items requiring attention; unproductive work can be weeded out in the same way. 4. Through proper records all personnel from top management to mechanics and drivers can be gotten into the act to work toward improvement. Armed with factual information every manager, dispatcher and driver and mechanic accepts responsibility for preventing failures."

MANAGEMENT at F. J. Boutell Service Co., subsidiary of the Driveaway Company, has long recognized the importance of the part shop employees and drivers play in the reduction of operating costs. While we know that the desire for a reduction in accidents and an improvement in maintenance efficiency may stem from the top, the success of any program rests with the men themselves.

We operate on the principle that every man in our employ can help us to reduce costs, whether it be through cutting maintenance time, reducing road failures, or improving the accident picture. Accordingly, we have set up an Incentive Contest and Awards Program beamed at every man in the fleet.

The program installed for driver personnel in 1939 and broadened to include terminal supervisory personnel and dispatchers in 1952, has already proven that all employees with good training plus proper incentives can assist in upping fleet efficiency. It was, therefore, again broadened in September, 1954, to include maintenance employees.

To Reduce Road Failures

The contest has as its objectives. 1. The reduction of road failures (this is the primary purpose from my point of view); 2. the reduction of accidents to vehicles; 3. the improvement of safety in the maintenance department; 4. the expediting of maintenance through better inspections and higher work standards; 5. the speed-up of repair work through improved PM methods. While all these aims have been accomplished indirectly, it is the road failure improvement that we like to point out with some degree of pride.

This incentive system has been instrumental in reducing road failures from 559 in 1953 to 430 in 1954, for the millions of miles we operate each year. And from all appearances, 1955 is going to see even as much improvement in the road failure picture.

Competition Does It

Here's the way the competition is set up. We have shops located in Buffalo, Detroit, Flint, Pontiac and Cleveland. Each shop competes with the other as a

F. J. BOUTELL
DRIVEAWAY CO., INC.

unit, while each location compares for individual drivers set up in such mechanics have a team. Both ratings are posted on bulletin boards in interest is kept.

At the end winning the points gets a sumptuous party at a hotel or night club. Wives manage these affairs unregarded by all.

Individual awards were based on the basis of performance during the year. The highest number received special recognition at a banquet, but each earned merits in the items listed in

(TURN TO E)

Plan Slashes Road Failures

contest designed to raise PM and safety levels

By W. W. (Pat) Vandercook

Supt. of Maintenance, F. J. Boutell Driveaway Co.

unit, while each employee in each location competes with the others for individual awards. Awards are set up in such a way that mechanics have an equal chance with drivers to win recognition either individually or as part of the team. Both shop and individual ratings are posted monthly on bulletin boards in all locations so that interest is kept high.

At the end of the year the shop winning the highest number of points gets a special plaque and a sumptuous party thrown at a local hotel or night spot at company expense. Wives are invited, and management is represented at these affairs which are highly regarded by all.

Individual awards are made on the basis of points earned during the year. The man collecting the highest number of merits receives special recognition at the annual banquet, but each man can use his earned merits toward purchase of items listed in the award catalog.

(TURN TO PAGE 132, PLEASE)

		F. J. BOUTELL DRIVEAWAY CO., INC.	
		DRIVER'S VEHICLE CONDITION REPORT	
CHECK EACH ITEM		Date _____	Mileage _____
<input checked="" type="checkbox"/> Satisfactory		Tractor _____	Trailer _____
<input checked="" type="checkbox"/> Unsatisfactory		LOCATION _____	
		Owned by _____	
AFTER TRIP	BECOME DEFECTIVE	ITEM	REPAIRS OR ADJUSTMENTS NEEDED AT END OF TRIP
		Brakes - Service	
		Brakes - Hand	
		Steering	
		Windshield Wipers	
		Defroster	
		Horn	
		R. V. Mirrors	
		Cab: Glass, Door Latches, etc.	
		Cab Tidiness	
		Engine	
		Clutch	
		Drive Line	
		Transmission	
		Exhaust	
		Governor	
		Speedometer or Tachometer	
		Tires and Wheels	
		Lights	
		Reflectors	
		Electrical Connection	
		Brake Connections	
		Trailer Connections	
		Fifth Wheel	
		Cool. Sys., Leaks, Fan Belts, etc.	
		Fuel Sys., Leaks, etc.	
		Springs	
		Battery	
		Trailer	
		Load Eq. Skids, Ramps, Skid Plas	
		Tie Down Chains	
		*Emergency Equipment	
		*Spare Light Equipment	
		Fire Extinguisher	
		P.M. Service	

Shop Employee Incentive Program MERITS

Section I

1. 30,000 miles-per-breakdown
2. 40,000 miles-per-breakdown
3. 50,000 mile-or-more-per-breakdown
4. Special bonus for no breakdowns
5. Each employee in the shop posting the highest MPB for the month

Section II

1. No lost time injury (each)
(a) No lost time injury for garage group
2. Employees Safety Suggestions
3. Special mention for meritorious service

DEMERITS

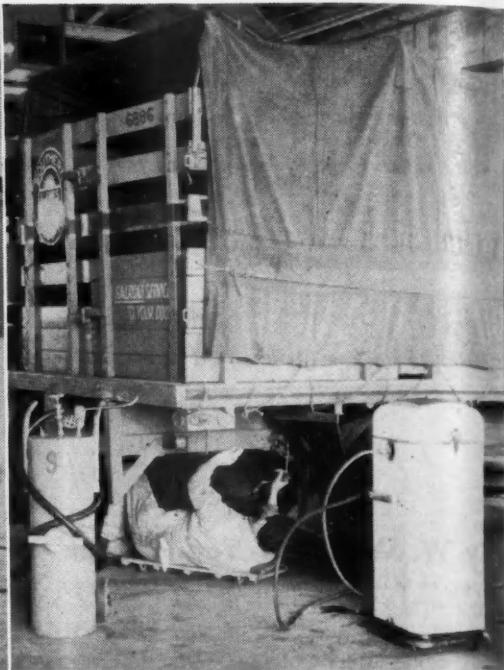
DEMERITS

1. Loss Time Injuries
2. Unsafe Work Practice
3. Fleet accident directly caused by maintenance failure
4. Reprimand

Demerits apply to each employee individually except No. 3.



Working out of the truck service unit, the lube man greases equipment and changes the oil on the spot wherever the trucks may be



Even in the shop, PMT uses portable equipment to service the fleet's trucks, thus eliminating the necessity of moving them



This mobile a provides PMT problems. A

Mobile Lube Units Speed

Pacific Motor Trucking's procedure of taking the servicing equipment to the

A RUNNING battle is being constantly waged against fleet maintenance costs by Pacific Motor Trucking Co. One result is that cost figures today are about 25 per cent less than three years ago. While factors influencing the downward trend are numerous, chief among them is a progressive lubrication policy. Not only has it resulted in longer unit life, but the system used by PMT is estimated to reduce actual lubrication costs by some 50 per cent.

Here's the picture in which good lubrication plays such a vital role: PMT, a wholly-owned subsidiary of the Southern Pacific Railroad, operates about 1950 units in over-the-road and city delivery service over routes roughly paralleling SP's rail lines on the Pacific Coast and in the Southwest, from Portland, Oregon, to El Paso, Texas. Last year these trucks and trailers rolled up a total of 18,617,899 miles—nearly two million more miles than in the previous year. Yet maintenance costs per mile, in-

cluding supervision, dropped 1½ cents. The difference between '51 and '54 was close to 3½ cents. The decline continues despite an increase in average age of units plus higher wage and material costs.

A first-class fleet in every respect, PMT keeps its equipment rolling in top shape at minimum expense by scrupulous attention to all phases of fleet operation. Elements contributing to continuing cost reduction are thorough supervision, new labor-saving tools and a well-trained mechanical force of 200 men in the company's 14 shops.

Lube Trucks Are Portable

Lubrication is naturally an essential part of a rigid PM setup which has been worked out to a system affording complete control. Don't look for grease racks or pits in any of the PMT shops. There just aren't any, because lubrication is performed entirely with specially-outfitted lube trucks, except

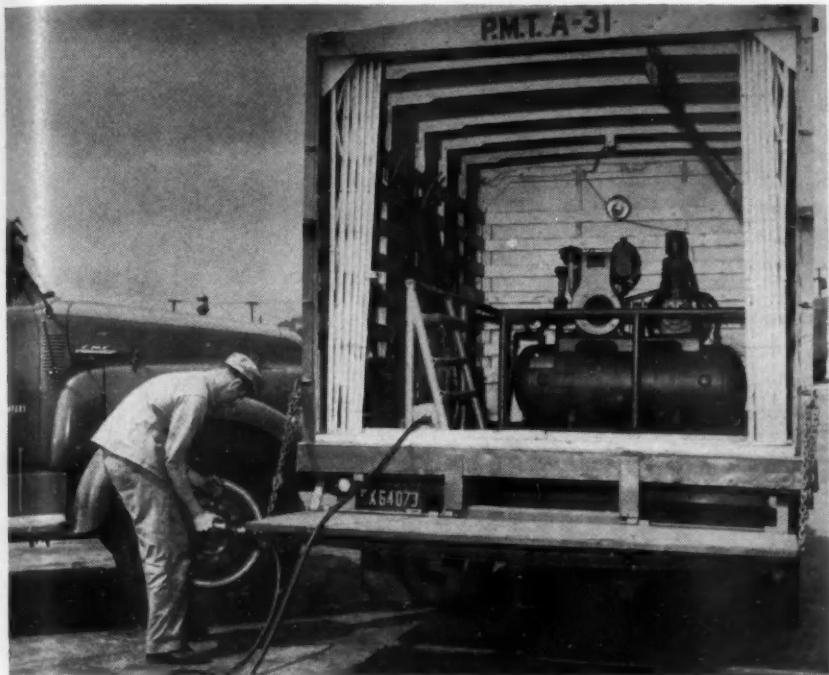
Veh

vehicle has

for some port manager of e as long to bri as it does for unit alongside

Some lube for airing, ar closed bodies outlets at the through hoses lube truck is of oils and g creepers to trucks.

Vehicles are routine at 100 first—both loc interval allow PMT's mobile



This mobile airing truck with engine-driven compressor provides PMT's answer to truck and trailer service problems. A pneumatic lug wrench is being used here



Top. Air brakes, breakaway valves and the lights on non-powered equipment are checked with this testing device. Above. Portable washer mounted on fork lift truck is another mobile unit that saves man-hours

Vehicle Service

Vehicle has cut lube costs 50 per cent

for some portable units in some shops. J. H. Ritter, manager of equipment, believes that it takes twice as long to bring a vehicle onto a rack or over a pit as it does for PMT's mechanics to drive a mobile unit alongside a truck.

Some lube trucks are equipped with compressors for airing, and small power-plants within the enclosed bodies supply lighting to the interiors, with outlets at the rear for extensions. Oil is pumped through hoses on reels, with metering valves. Each lube truck is equipped to deliver all necessary types of oils and greases. On the job, service men use creepers to reach lubrication points underneath trucks.

Vehicles are lubricated according to an inspection routine at 1000 miles or 30 days, whichever occurs first—both local and over-the-road units. The close interval allows rigid supervision. As for labor, with PMT's mobile units working down the line at ga-

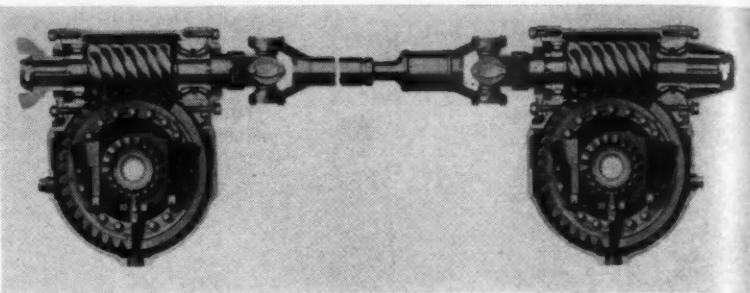
rages, yards and loading docks, it takes only 10 to 15 min per unit. The lube interval was established in accordance with manufacturers' recommendations. Oil is changed at 2000 miles on gas jobs and at 12,000 on diesel. Oil was formerly changed at 1000 on gas and 2000 on diesel but experimentation permitted extending the interval.

This is in line with company policy of pushing PM limits upward 10 per cent to wring additional
(TURN TO PAGE 142, PLEASE)

Timken Worm Drive

Worm and worm wheel gearing was used in the first tandem driving axles ever produced and the design has continued throughout the years to enjoy a high degree of popularity especially in highway hauling operations in the western states.

The advantages of this method of gearing are the elimination of the gear noise problem and that it makes possible a larger reduction ratio in a single step than is possible with any other form of axle drive. It is also comparatively lighter in weight and simple to maintain. Other advantages are the straight through drive from foremost to rear carrier and the reduction in vertical drive shaft angularity by reason of the high mounting location of the worm drive shaft.



Modern Axles &

By E. E. Siegrist, Timken-Detroit Axle Div.

A round up of the various axle and suspension systems used in modern trucks shows what is available to fleets along with engineering

Types of Carriers

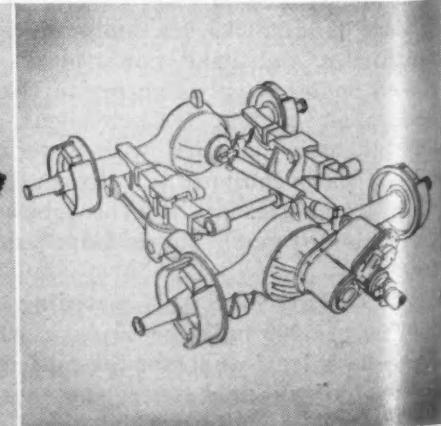
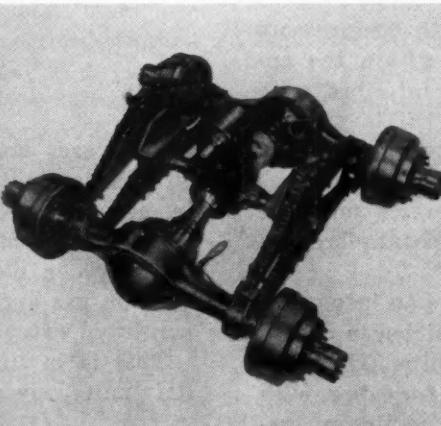
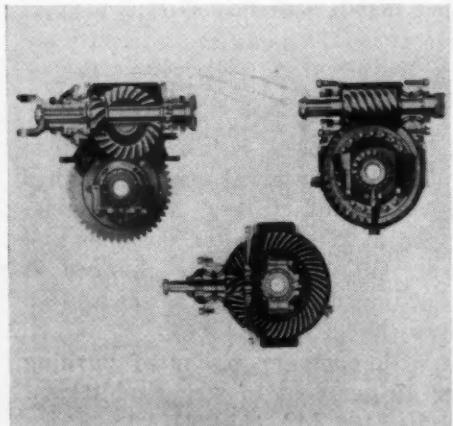
With regard to gearing employed in tandem axle final drives, there are three general types to consider: Single reduction with spiral bevel or hypoid gearing; single reduction with worm and worm wheel gearing; double reduction with spiral bevel or hypoid gearing in the first reduction and spur gearing in the second reduction.

These three types of drives have been used extensively for several years as original equipment items. In addition to its original equipment usage, the single reduction type has enjoyed quite a wide application in tandem conversion arrangements.

Thornton Tandem

In this example, power is delivered to the two driving axles through a gear case, which is an integral part of the unit. The gear case is supported by trunnion tubes, which extend through frame brackets and into spring hangers. Torque reaches both front and rear axles in the tandem.

Rotation of the gear box about the trunnion is prevented by the use of diagonal braces attaching to the gear box and to the frame. A torque tube arrangement between each of the axles and the gear box control torque reaction resulting from both driving and braking forces.



Eaton Hendrickson

Another method of delivering power to each of the single reduction drive units is through a single propeller shaft extending to an offset gear box which is attached to the nose of the carrier in the front.

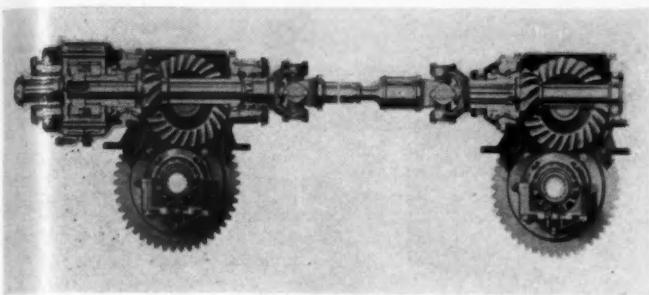
Torque is divided in this gear box and drives the forward axle through a system of gearing. The rearmost axle is driven by a propeller shaft extending from a counter shaft in the gear box to the pinion in the rear driving unit.

Suspension of this tandem to the frame is through semi elliptic springs, which are mounted on trunnion seat castings pivoting at beam centers.

Mack Double Tandem

Suspension of this tandem to the frame is through semi elliptic springs, which are mounted on trunnion seat castings pivoting at beam centers.

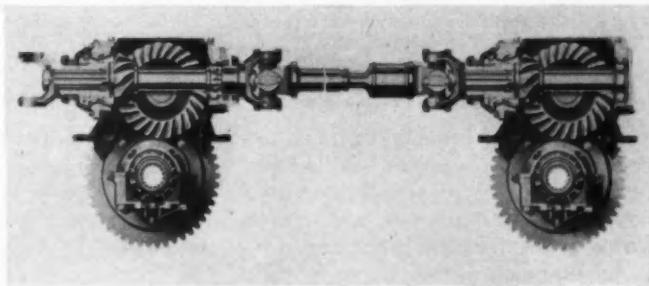
The springs are mounted at the front of the tandem. The function of the parallelogram is of springing the tandem. The parallel torque rods connect the carrier castings to the frame at the beam centers as the upper part of the frame and assist in the division of torque reaction.



Truckstell-Baumis

In this design, power is delivered to a power divider mounted to the chassis frame ahead of the foremost axle in the tandem. From counter shafts in the power divider, individual drive shafts extend to each of the driving units.

Single inverted springs are mounted at the center to trunnion seats, which are bracketed to the frame. Spring ends are mounted in, but not attached to brackets which attach to the axle housings. In addition to springing the load, the springs function as walking beams.



Timken Double Reduction

Another very popular double reduction thru-drive type of tandem axle is shown in this illustration. The pinion shaft extends thru the forward axle and is connected with the pinion shaft in the rear axle by an intermediate drive shaft universal jointed at each end.

Suspensions

systems used in tandem assemblies

engineering features of each design

Mack Double Reduction

Suspension of this tandem assembly to the frame is by means of inverted semi elliptic springs and two torque rods.

The springs are trunnion seat mounted at the centers to a cross tube extending the full width of the tandem. The springs perform the function of lower members of a parallelogram in addition to that of springing the load. The two parallel torque rods attached to gear carrier castings at one end and to the frame at the other and function as the upper parallelogram members and assist in the control of braking and torque reaction.

Round-Up Continues
on Next Page

Timken Single Reduction

This is another design of single reduction drive unit tandem utilizing a torque divider mounted to the frame ahead of the forward axle in the tandem.

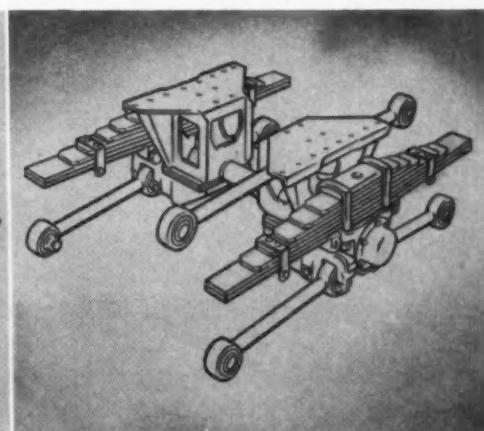
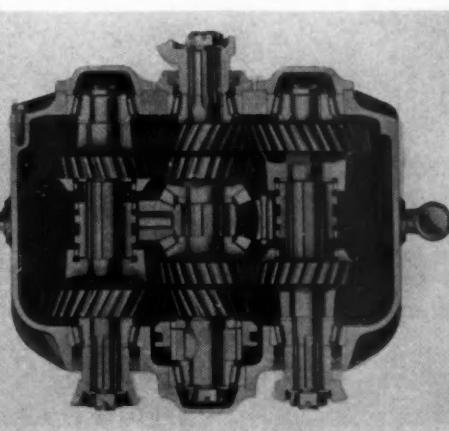
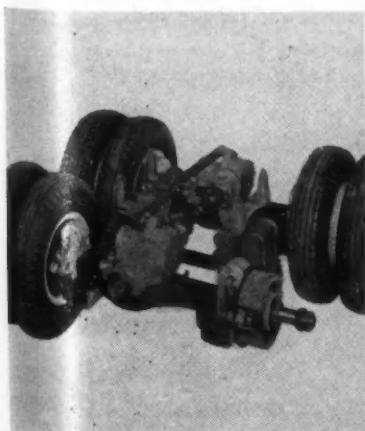
Power is transmitted to the individual axles through propeller shafts extending from counter shafts in the torque divider.

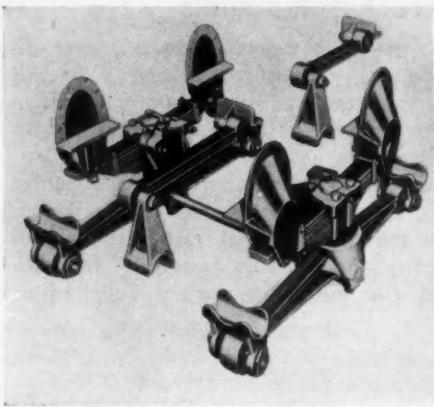
An inter axle differential is provided in the torque divider. A means of disengaging the inter-axle differential is provided.

Timken A. C. Group

Inverted semi elliptic springs suspend the frame by means of trunnioned spring seats mounted on a trunnion tube extending from one side of the tandem assembly to the other. The trunnion tube is attached to mounting brackets, which are a part of the frame. Utilization of this type of bracket insures uniform distribution of the load over a large portion of the frame side rail.

The free spring ends rest upon, but are not attached to, pillow shaped blocks which are attached to the housings; thus, the springs are required to perform only their natural function of carrying the load.

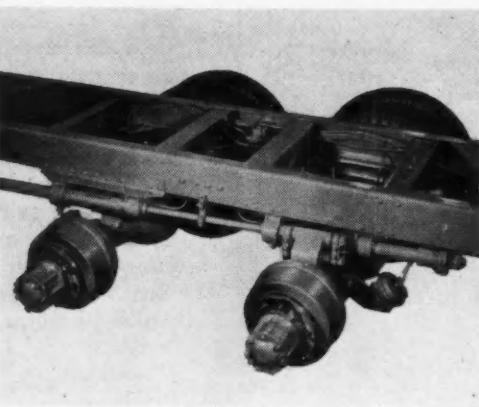




Eaton-Hendrickson

Driving and braking torques are controlled by two upper torque rods, each of which is attached to an axle housing bracket at one end and a frame bracket at the other end.

An equalizer beam on either side of the unit is braced at the ends of the beam to both the front and rear axle housing. These beams in addition to spacing and steering the axles control load distribution between the two axles in the tandem.

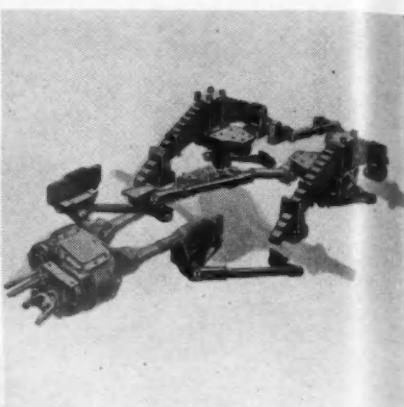


Kenworth Gravity

This gravity type of suspension provides lateral flexibility.

The single torsion bar at each side of the chassis is set at an angle with the frame member thus placing the shackles on the front axle closer together than on the rearmost axle.

This angularity carried through the shackling system to the axles results in a trailing action having the effect of maintaining axle tracking under forward motion.



Timken Hypoid Axle

The top mounted double reduction driving units used in Timken tandems have the advantages of the larger pinions and greater tooth contact area afforded by hypoid gearing.

Top mounting of the final drive units reduces vertical propeller shaft angularity. By placing the final drive units in line there is no propeller shaft angularity in the horizontal plane, between the forward and rearmost axles.

General Tire & Rubber

Another approach to the springing problem is the substitution of air cells to replace steel leaf springs. The load is carried on air cells, which are constructed with fabric and rubber, like the side walls of tires. The carrying height of the springs is controlled by height control valves mounted on the frame at the center of the tandem. The arms on the height control valves are connected to the axle beam through a rod.

The height of the frame, from the axle centers, remains the same, regardless of the load being carried. The air pressure in the cells will depend upon the load and may be as low as 6 lb. per sq. in. with an unladen vehicle.

Modernized Timken

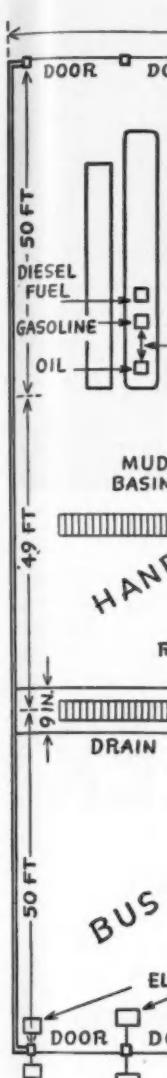
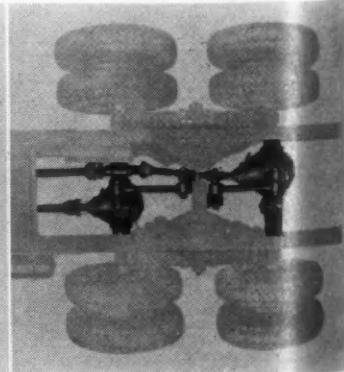
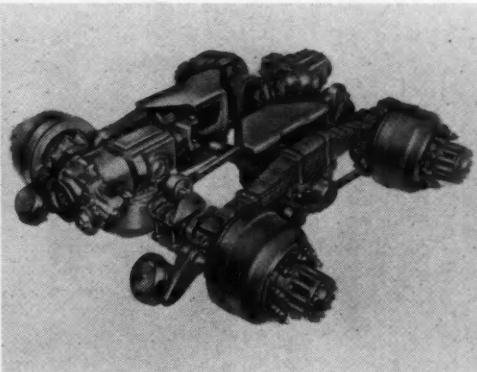
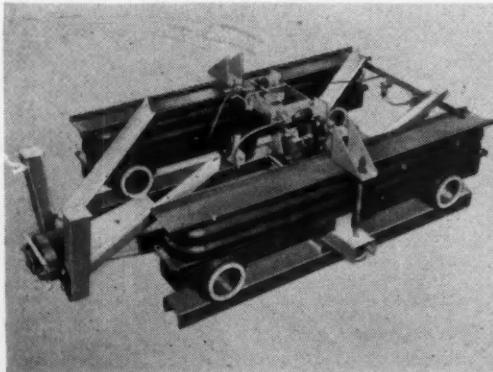
The latest improvements in Timken Detroit suspension and hook up design on medium heavy tandems are the introduction of spring seats which ride upon rubber bushings encased in steel. This spring seat construction insures long satisfactory life and eliminates the need for lubrication at these locations. In this improved construction, two-piece split type trunnion brackets are utilized, making possible the quick removal of the complete tandem unit or trunnion tube. The bracket assembly is made of light weight fabricated steel with upper section for attachment to the frame. Weight suspension is distributed over a large section of the frame rail.

Timken SBB—1955

The chassis frame is suspended at the centers of the springs, which are mounted on trunnioned seats. The trunnioned seats are mounted on a load tube, which is attached to the frame.

The ends of the springs rest upon but are not attached to seats atop of the axle housings. This spring attaching arrangement equally divides the load between the two axles and requires the springs to perform only the function of supporting the load.

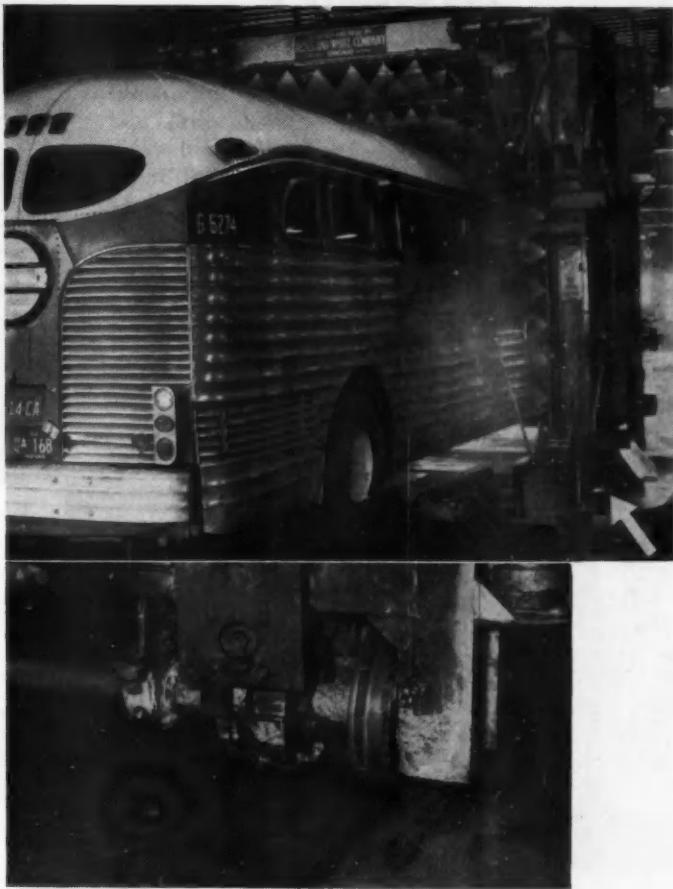
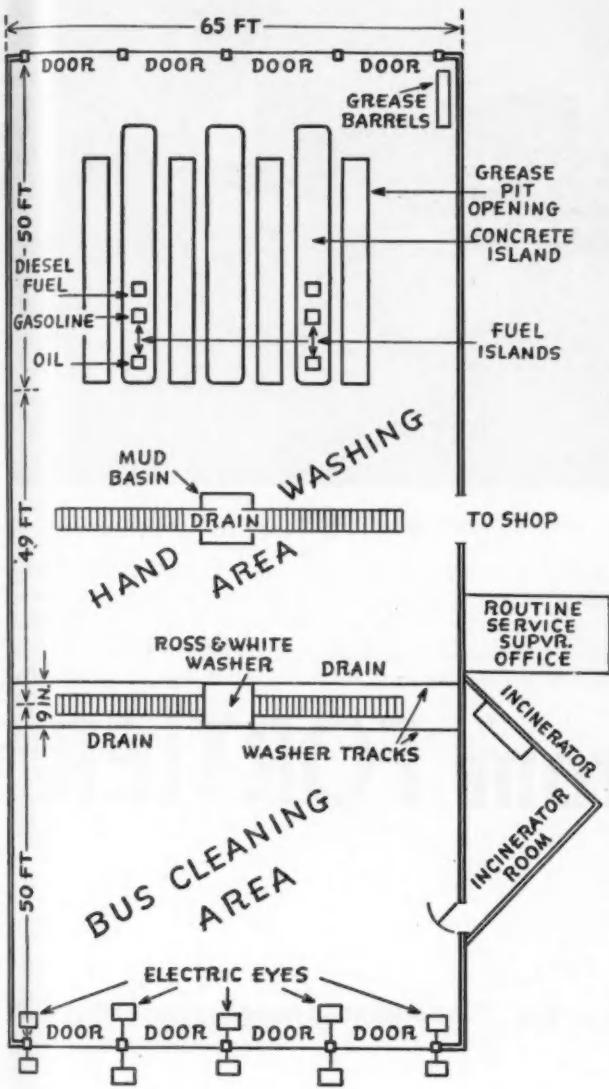
The lower torque rods in combination with the upper torque rods transfer both braking and driving torque to the frame. Axle alignment and spacing is accomplished by means of four lower torque rods.



ROBOT-O washing rig the other way around of the routine Lines' new gas built washing the four lanes.

Since the new this equipment test. The series the country.

(TU)



Top. The Ross and White machine at work.
Above. Flanged wheels permit portability along floor tracks. At Left. Layout of the service lane at Greyhound's Chicago shops

Greyhound Washer Cuts "Bus Ready" Time

ROBOT-OPERATED doors, and a portable washing rig that moves to the bus instead of the other way around, are two of the novel features of the routine servicing operation at Greyhound Lines' new garage in Chicago. The specially-built washing rig has cut 90 ft off the length of the four lanes.

Since the new garage opened in January 1954, this equipment has been put through a severe test. The service plant is one of the largest in the country. During the peak summer months, it (TURN TO PAGE 108, PLEASE)

Portable washer mounted on tracks speeds the operation and saves space at service lines. Flexible set up can wash 300 buses in 24-hour period

Tire Groover ▶

A piece of square tubing 5 ft long with an adapter mounted on the end as an anchor point to hold the groover in position make it possible to groove tires circumferentially while tires are mounted on wheels and on the equipment. The grooving head is made of two pieces of angle welded together to fit snugly and glide over tubing. A piece of $\frac{3}{4}$ -in. flat stock is brazed to top of angle and slotted with hacksaw blade to hold grooving blade. An additional piece of $\frac{3}{4}$ -in. stock fits on top to hold blades in position, and two holes are drilled at the ends to secure top to angle iron fixture. The whole grooving head is attached to a piece of flat stock 2 ft. long.



Shop Hints

from FORTIER

Home-made tools and equipment designed by the "invention-prone" mechanics of

Fortier Tr



Hydraulic Press ▶

This hydraulic press was designed to knock bushings and pins quickly, and has punches for rocker box bushings, cam follower bushings, cam follower roller pins and rocker box pins. It can also be used to put bushings back in, if they are first started on vise. Press has a 7-in. stroke and works off a 1 hp motor and hydraulic oil pump. Entire press is only 35 in. high and 16 in. wide and fits nicely onto work bench. Fortier mechanics report over a 50 per cent saving in time needed to knock bushings and pins as compared to hand method.

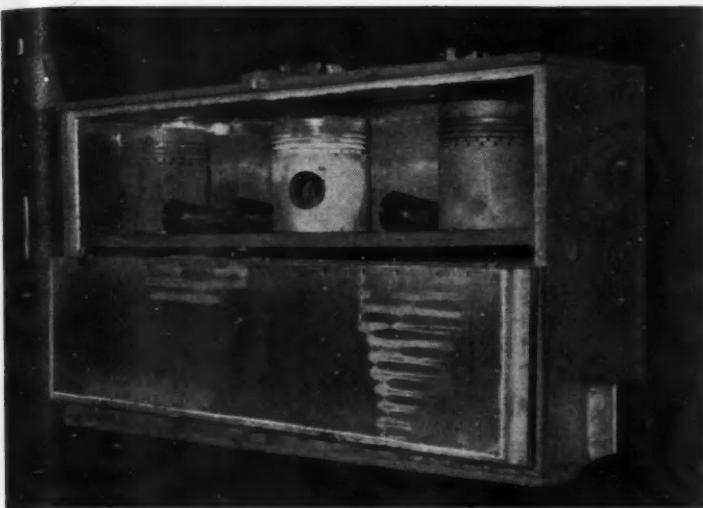


▲ Piston Ring Installing Device

Take an old aluminum piston, cut it off, add a handle and you have a ring installing device second to none, according to Fortier mechanics. It's the handle, they say, that makes the difference, since it makes it easy to push ring down squarely.

Here is a h
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This jig is n
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▲ Piston Heater

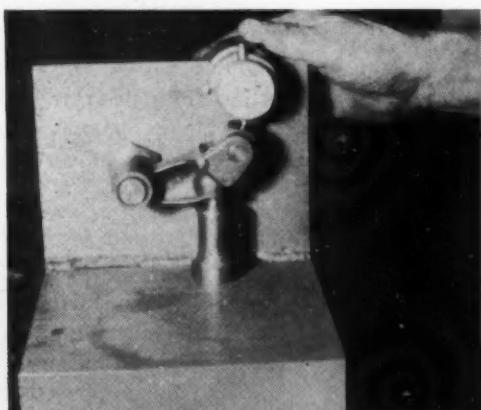
By heating their pistons and pins before installation in this homemade heater Fortier avoids scuffing pin hole during installation of pins. The cabinet is $37\frac{1}{2}$ in. long, $19\frac{1}{2}$ in. high and 8 in. wide with asbestos behind the aluminum. Three 375 watt lamps in the bottom of the cabinet below a removable aluminum tray provide heat.

cs of
Fortier Transportation Co.

Clutch Jig ▶

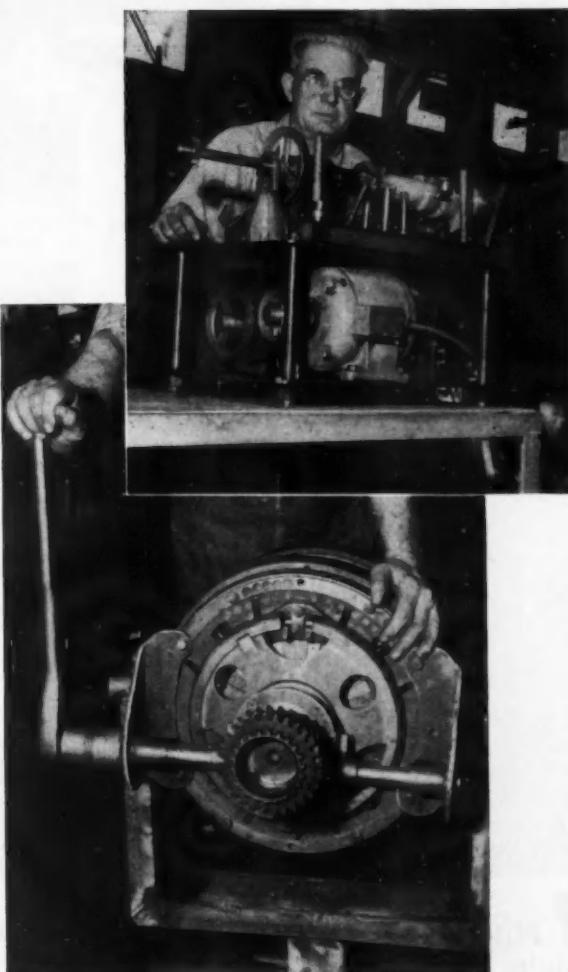
Here is a handy clutch jig which allows all clutch adjusting to be done before clutch is put into truck, thereby making possible more uniform adjustment and allowing installation by an apprentice, since it is only necessary to check freeplay once clutch is installed.

This jig is made by welding a 13- and a 14-in. fly wheel back to back on a shaft so that they can be turned. The stand is made from 2-in. thick angle iron 5 in. wide and measures 26 in. from the floor to top of stand.



▼ Boring Jig

This multiple boring rig allows operator to make four different borings—rocker box, cam follower, GMC rocker box, IH rocker box—by simply changing blades at the end of the boring bar. Fortier claims this method is three times as fast and much more accurate than hand boring. Another advantage cited is that the first one is the only one it is necessary to fit to the shaft size, and that this rig allows exactly the correct distance between bushing and pin. Rig runs off a $\frac{1}{2}$ hp electric motor and regular oil pump. Platform is $23\frac{1}{2}$ in. long and 18 in. wide. The bar is 6 in. above the platform. Clutch rack underneath saves time in sorting and keeps clutches handy.



◀ Diesel Cam Gage

To get better timing Fortier developed this diesel cam gage. It's made from an Ames cylinder gage with a 0-50 plus or minus scale in a piece of copper tubing $2\frac{1}{8}$ in. long by 2 in. outside diameter with $1\frac{1}{2}$ in. inside diameter and is slotted to fit the beveled $\frac{1}{2}$ -in. steel plate at the back of the rig. This plate is 8 x 8 in. and is beveled towards the left side to keep gage from falling off when not in use. The bottom plate is 8 x $7\frac{1}{2}$ in. long with a $1\frac{1}{2}$ -in. lip. There is a $3\frac{1}{2}$ -in. bolt exactly the size of the shaft on the back plate, and an old injector push rod has been cut off to $3\frac{1}{2}$ in. long and fitted into a tube approximately $3\frac{1}{4}$ in. long with an adjustable screw on the end under the bottom plate.



Above. Smallest of the Post Office's experimental vehicles is the three-wheel, postman-powered bike. Alongside is the 1/4-ton "Mailster," built by Cushman and being tried out for suburban and rural routes where patrons have curb-mounted boxes. With this vehicle, mailmen can carry packages they couldn't handle before and a larger quantity of mail formerly set out along the mail routes by larger trucks.

Below. This 3/4-ton, "Pony Express" built by Fageol Twin Coach has sit-down, right-hand drive. It was originally tested for much the same service as the three-wheel Cushman but in colder climates. Now it is undergoing added tests in Philadelphia for mailbox pick-up. On crowded downtown streets, it replaces the last of the hired horse and wagon fleet whose P.O. contract was not renewed this year.



Mounted Mailmen Select a Model

Behind that bright red, white and blue color scheme there is a whole new approach to mail delivery.

FUNCTIONAL vehicles are putting Uncle Sam's mailmen on wheels, and at a sensible price. That's good news from any fleet, especially from the nation's largest—about 22,000 trucks. It's doubly important when all of us own it and share in its service.

Not only is the Post Office Dept. motorizing many of its foot-weary carriers, it is also replacing its old specialized trucks with smaller, more-efficient standard models. Many an old 1½-ton model never carried more than 1000 lb of mail. So the replacement vehicles with lighter, less-expensive chassis and

larger standard bodies are at last being purchased to do the right job at the right place.

Right Hand Drive

More than 1500 of the new right-hand drive trucks are now in service with 2000 more being delivered and 2375 on order. Delivery on this last order (2000 vehicles from Fargo Motors, Dodge Division, Chrysler Corp., and 375 from International Harvester Co.) is scheduled to begin in October. The right-hand drive units speed delivery to rural mail boxes and mail storage boxes now uniformly

located on the right side of routes. Since they are standard export models, they cost no more than regular vehicles.

Similarly all models are now standard units with but slight modification. For instance in the ½-ton Dodge panels, only the addition of side windows completes the job.

Red, White and Blue

The new red, white and blue colors, combined with greatly increased visibility to sides and rear, are believed to be largely responsible for improved safety.



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Left. Two versions of a standard $\frac{1}{2}$ -ton Dodge export model. Right-hand drive is standard for these units. In upper model, four windows have been added in place of full panel sides for greater visibility. Lower model has only two added side windows. Window just to rear of door in both models opens to speed loading of mail. In lower model, large door window eases rural route mail delivery

Below. No modifications were required in this Dodge, $\frac{3}{4}$ -ton, forward-control van for experimental purposes. It handles parcel post and bulk mail delivery between post offices and railroad stations within the same city. Says the Post Office: Body cubic footage is so adequate that it is hoped they will replace to a large degree the use of 1, $1\frac{1}{2}$ and 2-ton trucks now in this service

At bottom. This tractor and semi-trailer combination — far removed from the three-wheel bike—is a 12/15-ton GCW White tractor and Highway trailer rig. It is used for the longer hauls of bulk mail, especially between points where other facilities are not suitable or adequate. Other such combinations used by the Post Office range up to 20 tons

a Modern Truck

whole new approach to speedy mail delivery



New Products

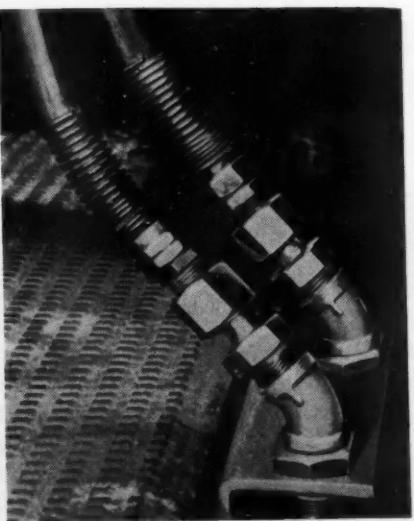
The latest developments in parts, accessories, tools and equipment for the fleet field, described in brief for your convenience

P1. Timing Light

Kal-Equip Co., Kalamazoo, Mich., announces a new timing light. The new "Super-Beam" light features a trigger switch that gives the mechanic instant finger-tip control of the light's operation, but shuts the mechanism off as soon as it is put down. Other features are, slender compact design that permits it to fit into tight places, lightweight, break resistant cast aluminum construction that permits rough handling and internal ground for absolute shock protection.

P2. Shut-Off Valve

W. S. Campbell Sales Co., Milwaukee, Wis., announces its new "Abso" leverless air line shut-off valve. It is leverless and has a push-pull action. It pulls closed in case of a breakaway and provides protection against loss of air. Other features include swivel connection to avoid strain, made of alloy steel. It complies with ICC safety regulations for trucks.



P3. Impact Wrenches

Thor Power Tool Co., Aurora, Ill., are now producing two new Thor 180 cycle, high frequency electric impact wrenches of the No. 24 series. Both models are $\frac{1}{2}$ -in. square drive wrenches designed with heavy section metal in the rear field case and steel impact housings to protect them from abuse. Model No. HF24R features a reversing button in the handle to permit the operator to reverse the tool with his thumb, for complete one hand operation. Model No. HF24R is non-reversible. Thor impact wrenches may also be used for drilling, reaming, tapping, stud setting, sanding, etc., in addition to their use as nut setters and screwdrivers.

P4. Fuel Tanks

Master Tank & Welding, Dallas, Texas, has announced production of a new line of semi-oval, fuel tanks featuring an overlapping head which places the weld a full inch from the point where the head of the tank starts to curve for greater safety and crash resistance. The tanks are manufactured in 40, 45, 55 and 60-gal capacities. They are also produced in round and L-step shapes.

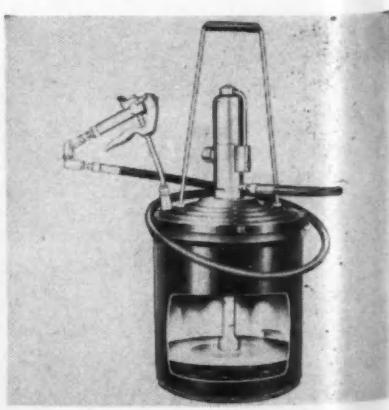


P5. Tarpaulin

Mechanical Products Division, Haartz - Mason, Inc., Watertown, Mass., announces a line of new truck tarpaulin made of DuPont "Neoprene" synthetic rubber and DuPont "Nylon." The maker says it has half the weight of regular covers, sheds oil, grease or gasoline. It is also said to be mildew and rot-resistant (can be folded wet) and to have greater strength. It comes in 39 and 54-in. widths.

P6. Lube Gun

Alemite Division, Stewart-Warner Corp., Chicago, announces a new, portable air operated power gun. Pumping directly from original 25- or 35-lb pails of lubricant, the portable power gun, Model No. 711-H, delivers up to $14\frac{1}{2}$ oz of lubricant per minute. A six-foot high pressure hose, "Z" swivel and control valve provide complete convenience of operation. A follower plate cleans the grease out of the pail with no waste, and an easily applied cover seals the lubricant against dirt and contamination. A socket to hold the control valve when not in use is located on the cover.



P7. Hose Guide

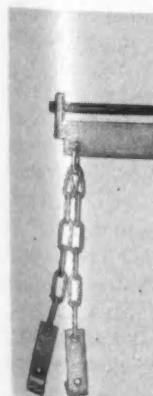
Clifford B. Westerlo, N.Y., tank truck hose wind attachment "Hannay Guide" delivery men to the left or thus doing away problems and hose on panel winding, the open arm for left, right and unreefree-spinning bending. In squeezes the thumb, and ease arm back and winds smoothly.

P8. Pressure Gauge

Enell Associates, Ohio, announces a pressure cap tester, Model No. 1030, a pressure gage and will accept either The cap is placed the pump operating pressure (4, 7, 10, 15, 20, 30, A good cap must be held that pressure.

P9. Engine Guard

G & H Products, Ohio, announces which an engine suspended to angle by simply hoist with a specifically designed automotive engine to permit its transmission intact. crum principle construction, this to 1600 lb.



P7. Hose Guide

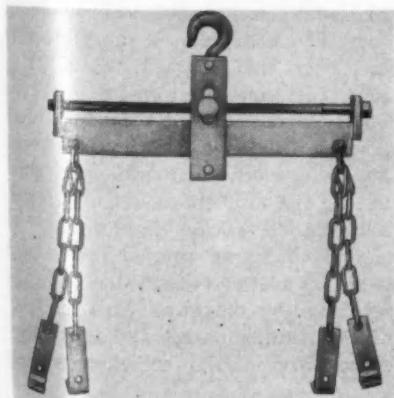
Clifford B. Hannay & Son, Inc., Westerlo, N. Y., announces a new tank truck hose guide and level-rewind attachment, known as the "Hannay Guidemaster." It enables delivery men to unwind hose easily to the left or right sides of trucks, thus doing away with some parking problems and preventing scuffing of hose on panel sides. For guided unwinding, the operator sets the guide arm for left, right or straight positions and unreels the hose, while the free-spinning ball bearing rollers of the "Guidemaster" prevent sharp bending. In rewinding, he merely squeezes the positioning lever, presses the control button with his thumb, and easily swings the guide arm back and forth as the hose re-winds smoothly and evenly.

P8. Pressure Cap Tester

Enell Associates, Inc., Cleveland, Ohio, announces a new radiator pressure cap tester. The Enell Testmaster No. 1030 consists of a pump, pressure gage and an adapter tube, which will accept either long or short caps. The cap is placed on the adapter and the pump operated to apply the rated pressure (4, 7 or 13 lb) to the cap. A good cap must relieve at somewhere near its rated pressure and hold that pressure without leaking.

P9. Engine Hoist

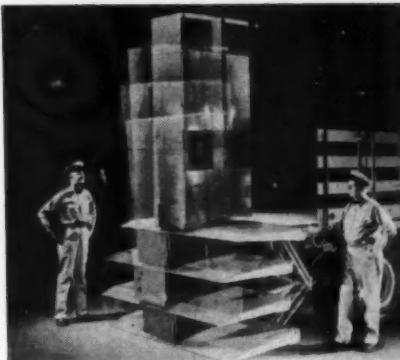
G & H Products, Inc., St. Paris, Ohio, announces an engine hoist on which an engine can be tipped while suspended to any desired working angle by simply turning worm of the hoist with a ratchet wrench. It is specifically designed to handle any automotive engine (in-line or V type) to permit its removal with the transmission intact. With its movable fulcrum principle and heavy steel construction, this hoist handles loads up to 1600 lb.



COMMERCIAL CAR JOURNAL, August, 1955

P10. West Coast Mirror

Yankee Metal Products Corp., Norwalk, Conn., announces a new West Coast type mirror that features double bar bolt-on brackets. This construction adds to the sturdiness of the mounting and cuts installation time. The 6 $\frac{1}{2}$ x 15 $\frac{1}{2}$ in. shock glass mirror is mounted with vibration-proof elastic stop nuts. Maximum position flexibility is provided by the telescoping arms which are cadmium plated. Tubing is electrically welded with no open seams.



P11. Anti-Freeze Analyzer

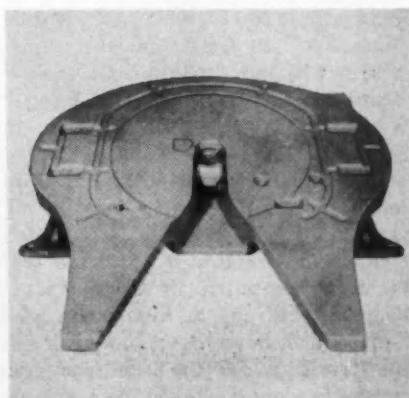
DuPont's Anti-Freeze Laboratory, Wilmington, Del., announces an analyzer to determine acidity of DuPont's ethylene glycol-base anti-freeze "Zerex." Using the kit, a fleetman



can tell if the "Zerex" still has sufficient inhibitor or if it has become acid enough to require removal from the radiator.

P12. Fifth Wheel

Simplex Fifth Wheel, Hammond, Ind., announces a new fifth wheel. Plate is one-piece cast steel, full 36 in. in diameter, webbed and reinforced. Forged steel jaw is flanged to provide greater king-pin bearing area. Rocker arm is cushioned with a rubber slab between the plate and bracket bearing shoe to provide a softer ride and minimizing wear.



P13. Lift Gate

Daybrook Hydraulic Division, The L. A. Young Spring & Wire Corp., Bowling Green, Ohio, has just announced a new line of power lift gates for trucks. Capacities range from 400 to 2000 lb. Features include a completely protected hydraulic system, package assemblies, choice of ramping or non-ramping platforms, automatic or selective hand controls, and dual control levers for operation from either side of truck body.

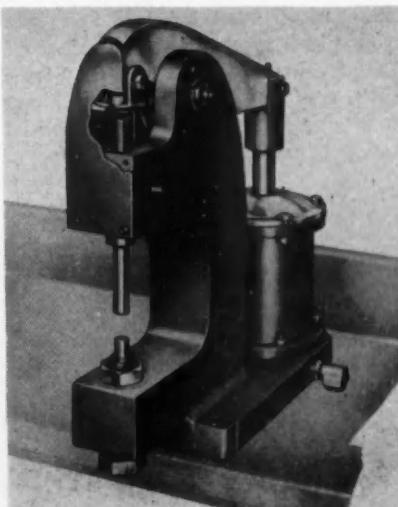
P14. Flare Kit

R. E. Dietz Co., Syracuse, N. Y., announces a new "Reflex" reflector flare kit. Flare packs in its own base and all flares nest securely in the mounting bracket provided. The No. 324-F Flare Kit consists of 3 No. 24 reflector flare panels, 3 red enameled steel bases, 2 red danger flags, 2 flexible metal flag staffs, and 1 red enameled mounting bracket. Kit measures only 8 $\frac{1}{4}$ x 4 $\frac{1}{4}$ x 3 in. when nested in mounting bracket.

P15. Riveting Machine

Power Brake Parts Mfg. Co., Chicago, announces three new pneumatic riveting machines, the Model Nos. A2T, A2B and A7. The Model Nos.

(TURN TO NEXT PAGE, PLEASE)



New Product Descriptions

Continued from Page 85

A2T and A2B will handle rivet sizes from four to eight. The A7, shown, will handle No. 10 rivets. The A7 has a 4-in. throat with a full 1-in. stroke and will operate on regular conventional air line.

P16. Radiator Guards

Bustin Steel Products, Dover, N. J., announces the application of a new type counterlever mounting plates for truck guards where radiator grille is flush with bumper. This installation eliminates use of braces which may interfere with steering mechanisms. Main stress is applied at bottom end of truck chassis and top of bumper.

P17. Hose Clamps

Mont Clare Mfg. Co., Chicago, is now marketing new, improved "Fog-O-Scope Jetgrip" automotive hose clamps which can be installed quickly without removing hose. Clamp is controlled by a thumb-screw head in a swivel collar to prevent stripping. Specially designed swivel nut automatically engages screw for easy starting. Opening and tightening the clamp without tools permits fast replacement.

P18. Tubeless Tire Kit

American Grease Stick Co., Muskegon, Mich., announces its "RuGlyde" service kit for tubeless tires. "RuGlyde" is a rubber lubricant that helps seat the tire beads with a minimum of pressure when mounting, and protects the rim-seal ridges of beads from scuffing by tire tools when the tire is mounted and demounted. To make "RuGlyde" handier and more economical to use, the manufacturer has developed the "RuGlyde Service Kit" complete with special heavy-duty applicator for tire lubrication, and a brush for rubber cleanup.

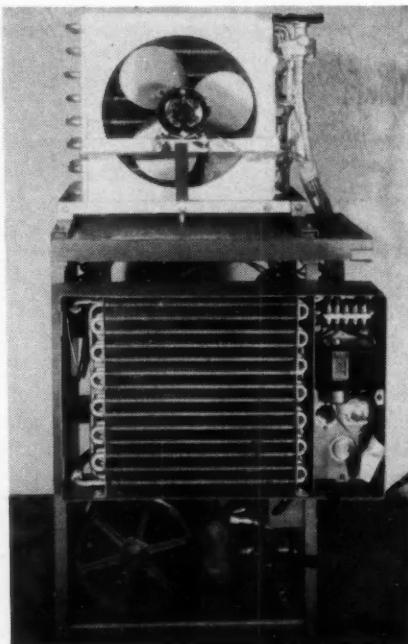


P19. Set Screws

Standard Pressed Steel Co., Jenkintown, Pa., announces a new line of "Unbrako" socket-head set screws that can be tightened up to 40 percent tighter. They are available in a complete range of sizes.

P20. Light Truck Reefer

The Frank-Dewey Co., Detroit, announces a new "Allen" all-electric reefer for trucks of 300-600 cu ft capacity. Largest of the line, the new Model No. T-750 cooler has a capac-



ity of 9000 Btu per hour at 25 deg F with refrigerant (Freon 12) at 110 deg ambient. This new cooler provides complete refrigeration while the truck is on the job by means of an alternator connected to the truck's engine. Overnight the T-750 plugs into any 110-115 volt AC standby outlet. At 110 deg F ambient temperature, with no product load, temperature is held constant at 37.3 deg in a 600 cu ft storage room with insulation 3 in. thick. The new unit is 52 in. high, 20 in. wide and 23 1/2 in. long and weighs 355 lb installed. It is available in 2 units. A complete compressor-evaporator package can be corner-mounted inside the truck body. If desired, the evaporator of a 2-piece unit may be mounted inside the truck, while the separate condenser is placed outside the truck.



P21. Battery Chargers

Allen Electric and Equipment Co., Kalamazoo, Mich., announces a new line of "Dyna-Chargers" for both six and twelve volt batteries. The new line will meet all requirements for combination fast and slow charging. Several models have built-in battery testers.

P22. Black Top Seal

The Monroe Co., Inc., Cleveland, Ohio, announces a new process for repairing, protecting and preserving asphalt and black top surfaces. It utilizes two well known Monroe products—Jiffy Floor and Black Top Seal. Jiffy Floor is a fine granular, ready-mixed plastic material which is formulated for the specific purpose of filling cracks and preventing surface deterioration. After repairs are effected with Jiffy Floor, the surface is then coated with Black Top Seal. The latter is applied with brush, mop or squeegee in a thin coating to form a smooth tough waterproof surface. It is said to protect against abrasion, frost damage, blisters and deterioration, and is unaffected by sun and extreme temperatures as well as being impervious to oil, grease and gasoline.

P23. Dock Adjuster

Rotary Lift Co., Memphis, Tenn., announces a new lift, called the Rotary Truck Leveler, designed to raise or lower the entire rear section of any truck or trailer to bring the bed on a level with the loading dock. Angle of incline between dock and bed is reduced to a minimum, eliminating the problem of low-underclearance pallet trucks "hanging up" on sharply inclining ramps. The Leveler is a 10 x 14-ft non-skid steel platform set into the driveway area in front of the loading dock. It has a raised center curb section which accurately

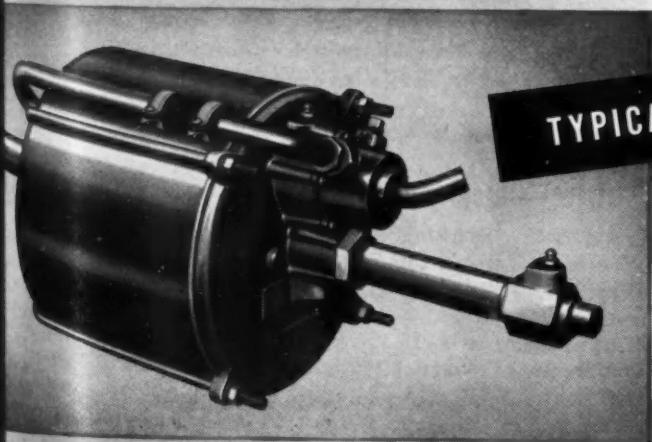
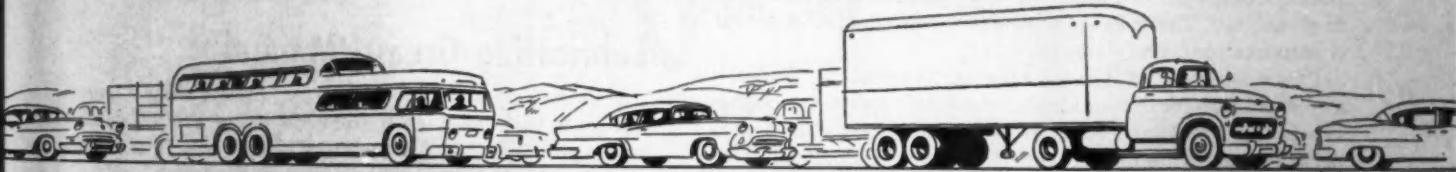
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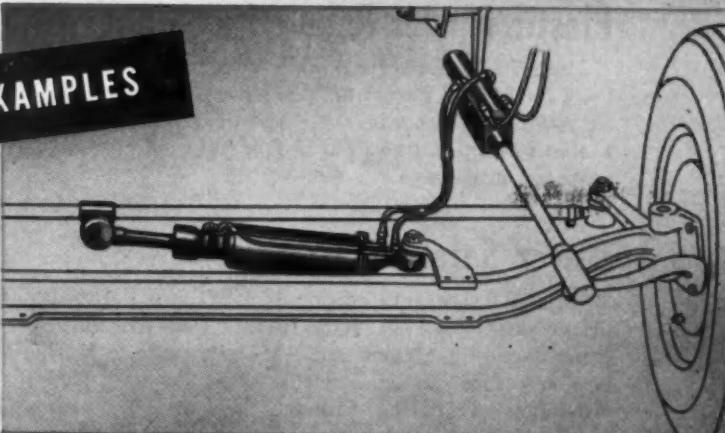
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FOR AUTOMOTIVE COMPONENTS

Over two million square feet of floor space at the Bendix Products Division insures the manufacturing capacity to meet volume requirements, with on-schedule deliveries in a wide range of automotive components.



TYPICAL EXAMPLES



BENDIX HYDROVAC* POWER BRAKE—With over four million units in use, the Bendix Hydrovac is the world's most widely used power brake for commercial vehicles. This overwhelming preference for Hydrovac is a result of sound engineering design, exceptional performance, low original cost and minimum service upkeep. Make the industry's choice your choice.

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For free publications included in this list of new fleet maintenance and safety literature, use the reader service postcard

Safety Service Guide

Truck and bus fleet safety men will find this catalog of safety materials valuable in their efforts to cut accidents. It is a complete listing of safety educational materials available from the National Safety Council.

Of special interest will be the section on Motor Transportation. It includes description of the Council's Safe Driver Awards, fleet safety manual, fleet safety magazine, safe driver magazine, training films, dash cards and stickers and similar materials designed for truck and bus fleet safety. There is an outline of the Council's motor transportation safety service.

Other sections of the catalog of interest to fleetmen are statistics-records-analysis, chemicals-gases-flammable substances, welding - cutting - soldering, tools - hand and portable, and motorized (off-highway) equipment. For your free copy of this safety catalog, circle L1 on the postcard on page 84.

Plastic Fender Repair Procedure

Lunn Laminates, Inc., makers of the plastic delivery body for United Parcel Service, offer this fully illustrated, easy-to-follow procedure for plastic fender repair. It is a step-by-step outline. For a free copy, circle L2 on the postcard on page 84.

Driver Safety Booklet

Here is the seventh edition of J. Willard Lord's 48-page driver safety booklet. It represents well over 20 years of experience in analyzing accidents and study in finding out how accidents can be avoided.

"Defensive Driving Practices and the Operator's Responsibility" is written for the truck driver. Discussion is in easily understood language. It is fully illustrated with many charts, graphs and illustrations to make the text very clear.

Lord, recently retired as assistant director of safety and fire prevention, Atlantic Refining Co., has included sections on physical condition, signals, traffic signs, starting, parking, turns, passing, intersections, speed, night driving, tire traction and skidding, winter driving and other safe driving subjects.

Single copies are \$1 each, can be had by writing J. Willard Lord, Newtown Rd., Ithan, Pa.

Weight-Profit Chart

This handy chart published by Aluminum Co. of America is designed to make it easy to compute how much additional revenue per year can be had by carrying more payload. It will help the fleetman decide whether the added payload revenue will equal the added investment in lighter weight equipment. It includes a handy conversion chart for bulk commodities. It's free—circle L3 on the postcard on page 84 for your copy.

Lubricating Grease Manual

Just published by the National Lubricating Grease Institute is this 982-page manual covering the "Manufacture and Application of Lubricating Greases." It includes the theory behind the use of lubricating greases.

Some of the information has not appeared in book form before. Among such items are complex-type soap lubricants, non-soap thickened products and lithium-base lubricating greases. A complete section is devoted to proper selection of greases.

Copies are for sale by the National Lubricating Grease Institute, 4638 J. C. Nichols Parkway, Kansas City 12, Mo.

Public Truck Scale Directory

American Trucking Assns.' Movers' Conference of America has issued the fourth edition of its "Public Scales Directory," covering the United States and Canada. Copies are available at \$1.50 each with a reduction for quantity orders. Write to J. F. Rowan, General Manager, Movers' Conference of America, 16th and P Sts., ATA Building, Washington 6, D. C.

Contract Carrier Listing

The Contact Carriers Conference, American Trucking Assns., has just published the 1955 edition of its Directory of Contract Motor Carriers. It lists by states, cities and street address all contract carriers in interstate commerce. The 104-page, alphabetized publication costs \$2 to non-Conference members. For a copy, write Contract Carriers Conference, American Trucking Assns., 1424 Sixteenth St., N.W., Washington 6, D. C.

(TURN TO PAGE 146, PLEASE)

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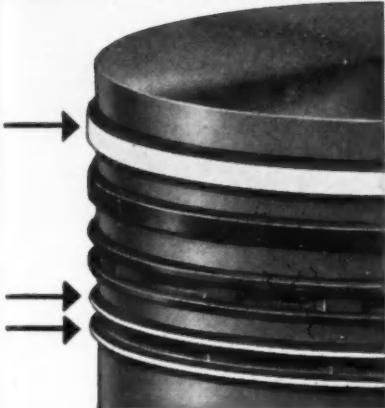
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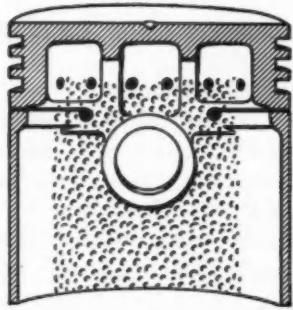
RINGS

Faster pick-up

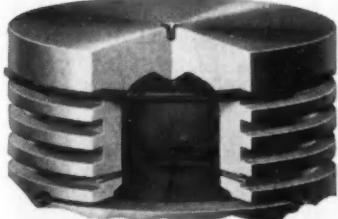
GIVE YOUR ENGINE
A COMPLETE RE-RING JOB



Use KromeX on all ring jobs. Modern engines need chrome rings to fight heat and corrosion and reduce friction. KromeX Ring Sets are preseated at factory for immediate oil control—give you chrome where it counts.



Have all pistons resized on SEALED POWER Super-Sizer. Internal peening around pin boss area increases resiliency and outward tension on thrust faces—expands skirt to original close fit—retains cam contour.



Restore original top ring groove width. Install SEALED POWER GI-60 contracting groove inserts. They lock permanently in top of groove, forming heat-treated spring steel shield that resists wear better than aluminum or iron.



Sealed Power KromeX PISTON RING SETS...

assure your engine

- faster pick-up
- smoother performance
- double ring life
- maximum oil economy
- positive lubrication

assure YOURSELF

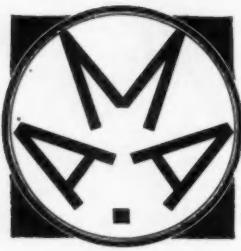
- lower cost per mile
- more miles of good service
- no come-backs

Sealed Power Piston Rings

BEST FOR RE-RING! BEST FOR RE-BORE!
SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

RINGS • PISTONS • PINS • SLEEVES • VALVES • WATER PUMPS

You . . . and The Manufacturer's Associations



fit to the nation's truck and bus fleet operators.

The trucking industry's major contact with AMA is in the fields of design and use, through the work of the Engineering and Technical Committee and the Motor Truck Committee.

Truck Division

The AMA Motor Truck Division works in close cooperation with all organizations responsible for finding solutions to trucking problems. Public relations for the trucking industry as a whole is a major activity. The Motor Truck Public Relations Committee has published and given wide circulation to such booklets as "Horses to Horsepower" and "What Do You Know About Trucks?" which emphasize the major social and economic contribution of motor trucks to the public and national defense.

The Committee has also produced several outstanding trucking films such as "Singing Wheels," produced in 1941; "Horizons Unlimited," 1948; "Professional Portrait," 1950-51, and "Mr. O'Flynn and His Fifty Million Wheels," 1954. These films, dramatizing the economic importance of the motor truck in America, are furnished free to state trucking associations, schools, luncheon groups, and others.

Working in cooperation with other highway trans-

portation groups, the Public Relations Committee recently sponsored a national opinion survey to determine attitudes of the public toward trucks and trucking. Conducted by Alfred Politz Research, Inc., the survey provided factual data on the real public relations problems facing the industry. (Reviewed in CCJ, Feb. '53, page 69.)

Among its other activities the Motor Truck Division also:

- Gives world-wide distribution to "Motor Truck Facts," prepared by the AMA statistical department and offering a comprehensive collection of facts about truck production, use, taxation and economic impact.
- Cooperates with the National Committee for Motor Fleet Supervisor Training. Truck manufacturers furnish vehicles and staff members for lectures.

● Provides close liaison between truck manufacturers and government bodies, including national defense agencies.

● Cooperates with the Highway Research Board in road tests to provide factual information on the effect of truck traffic on various pavement types. AMA members have furnished vehicles for road tests on the Pennsylvania Turnpike, in Maryland, and for the WASHO test in Idaho.

● Combats the ton-mile tax theory on the ground that such a tax impedes inter-state commerce by interfering with reciprocity agreements. The Division is seeking to unite commercial motor vehicle transportation groups behind one positive tax proposal—a tax that would provide needed revenues while allowing highway transport to perform its economic function in a fair competitive climate.

● Contributes to the National Safety Council's Committee on Winter Driving Hazards.

NINTH OF A SERIES

This is the ninth of a series of articles devoted to groups serving the highway transportation industry. Next month, the motor vehicle committee activity of two specialized organizations, the American Gas Assn. and the Edison Electric Institute, will be discussed.

Technical Sub

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**Commercial Car Journal
Special Report**

AMA—TTMA—TBEA

Support of motor carrier association projects such as Roadeos, conventions, and public relations programs by automotive equipment suppliers is well-known and appreciated by fleetmen. Less known, but no less important are the contributions made by suppliers to improvement of the industry through projects conducted by their own associations. To highlight these activities, which often result in significant benefits to fleet operators, here is a description of programs carried on by three major suppliers' groups: the Automobile Manufacturers Assn., the Truck Trailer Manufacturers Assn., and the Truck Body and Equipment Association.

Technical Sub-Committee

The Division's closest day-to-day contact with truck users probably comes through the Truck Technical Subcommittee composed of automotive engineers. The subcommittee's work often has wide ramifications in the fields of trucking economics and public relations, as well as in safety regulations.

Among recent activities the subcommittee has cooperated—with ATA, TTMA, the ICC, Bureau of Public Roads and others—in developing new truck braking standards, a new manufacturing standard for truck muffler design, joint engineering studies to obtain maximum possible cargo capacity, and the successful development of universal tractor-trailer coupling hailed by ATA as a milestone in trucking.

The coupler project, one of some 25 formal equipment proposals to come out of joint AMA, ATA and TTMA conferences since 1951, will have far-reaching effect on long-distance hauling. It developed from a request by ATA's Common Carrier Conference to tractor and trailer manufacturers for complete interchangeability of equipment that conforms to maximum legal dimensions in most states and for maximum useful loading space in such equipment.



CURRENTLY ENGAGED in an extensive public information program, the Truck Trailer Manufacturers Assn. acts as the medium through which trailer builders and their suppliers join forces with fleet operators for promoting and improving the highway transportation industry.

While carrying out the usual activities of a trade association for its members, TTMA's program is also devoted to serving fleetmen through its own and cooperative public information projects and through co-

operation with other industry organizations in the solution of industry problems.

Information Program

TTMA regards its public relations activity as one of its most important services to the industry.

Probably the best known single project in the TTMA public information program is "Highway Headlines," a weekly fifteen-minute radio news program. Now completing its first year, the program is prepared under the direction of TTMA, offered free to more than 200 radio stations in 46 states. Emphasizing the positive benefits of highway transportation, the program also features other items of current interest to the motoring public. Stations carrying the program are permitted to sell it to local sponsors, and these now include trucking, auto insurance and oil companies and, in one instance, a town government.

Special radio and television projects are also sponsored by TTMA. Recently, for example, an address by Mr. Neil J. Curry, president of American Trucking Assns., was transcribed and supplied by TTMA to more than 30 radio stations in major cities. In another project, TTMA cooperated with the National Automobile Transporters Assn. to supply television news clips dealing with the question of interstate motor vehicle reciprocity to more than 16 TV stations.

In addition to these special projects, TTMA carries on a continuing public information program, including news releases, special magazine articles, and press conferences when industry developments are newsworthy.

Industry Cooperation

Working with industry groups to help solve operating problems is another important TTMA activity.

At the request of ATA's regular Common Carrier Conference, TTMA worked in cooperation with the Automobile Manufacturers Assn. to develop standard tractor and trailer specifications which would permit ready interchange of trailers.

(TURN TO NEXT PAGE, PLEASE)

You... and The Manufacturer's Associations

Other requests have led TTMA into helping develop the high-cube trailer and other studies such as service brake performance and life as well as brake emergency application features for combination vehicles.

Legislative Voice

Through its staff, TTMA keeps in touch with legislative developments that concern the industry, and speaks with authoritative and respected voice when the occasion is proper. Recent TTMA activity in Washington included an appearance before the House Public Works Committee to give testimony on the proposed highway improvement program.

As the representative of the manufacturers of more than 90 per cent of the nation's truck trailers and their suppliers, the TTMA staff served as liaison agency in arranging cooperation between its industry and the Business and Defense Services Administration, Department of Commerce, in its mobilization program. Many other instances of TTMA's activity as its industry representative could be cited.

Cooperation Promoter

Truck Trailer Manufacturers Assn. is a firm supporter of inter-industry cooperation as a means of accomplishing mutual benefits. One outcome of this attitude was the formation of a special Public Relations Liaison Committee in 1954. In November of 1954, this committee began its efforts toward greater industry unity by arranging TTMA sponsorship of a "Little Dutch Boy Luncheon" for all highway association representatives.

Commenting on this activity in a COMMERCIAL CAR JOURNAL "Overload" last December, Editor Bart Rawson said:

"To the best of our knowledge this is the first time anywhere that one segment of the industry had said to other segments of the industry—what are you doing for public relations, what can we do, and how can we make the combination more effective?"

This liaison effort is continuing, and along with all other services of TTMA is being accelerated in 1955.



▼ UNLIKE THE truck and trailer manufacturing industries, the truck body and equipment industry consists of numerous relatively small regional companies. Like the carrier industry itself, these companies found that there is much to be gained from co-operative action, so the association was formed under the name of the National Truck Body Manufacturers Assn. in 1948. Since then, there have been organiza-

tional changes, and the present name, Truck Body and Equipment Assn., was adopted in 1952.

While organized primarily to serve its members, TBEA activities benefit fleetmen directly and indirectly. Direct benefits stem from TBEA cooperation with other manufacturer and carrier organizations in solution of mutual problems such as equipment design, while indirect benefits follow from TBEA members being kept informed of industrial and legislative developments which affect their operations.

Liaison Activities

Through TBEA, truck body and equipment manufacturers receive the usual trade association services and have a unified contact with such associations as the Automobile Manufacturers Assn., TTMA, SAE and the American Trucking Assns.

Typical of the type of project in which this liaison is effective is the current activity concerning vehicle wiring and lighting systems. Through cooperation among the associations, standards for lighting and wiring systems are being developed to meet the requirement of vehicle operators and traffic administrators.

By offering an opportunity for interchange of ideas among its members and with other equipment suppliers, TBEA benefits fleetmen by assisting in the development of efficient chassis-body combinations.

Meetings

While TBEA members are kept informed of current developments by bulletins, annual meetings offer members greater opportunity to participate in discussions of these developments and to act on mutual problems. For example, at its convention in October, TBEA's program will include discussions of truck wiring and lighting, plastics for bodies, refrigeration and insulation, and manufacturing and distribution problems of the industry. From these discussions, members will take ideas which they can translate into better service and equipment for their fleet-operator customers.

Equipment displays also play an important part at these meetings. Exhibits of truck bodies, special equipment and materials and components offer additional ideas which body builders can use in improving their products, as well as an opportunity for body builders to discuss their problems and needs with their suppliers.

Future Growth

With approximately 300 members, TBEA now represents most of the major body and equipment manufacturers and is currently engaged in a drive to expand its membership. Recently the hydraulic hoist and dump body manufacturers disbanded their own association in favor of joining TBEA, and attempts are being made to bring school bus body manufacturers into the association in a similar arrangement.

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Little Item Big Saving



RIMS MAY LOOK like a little item—but you'd be surprised how big they can loom on the right side of the ledger.

When you specify Goodyear Wide Base Rims, for example, you can haul up to 100 pounds' extra pay load on a tractor-trailer unit. That's because these superior rims, in nearly all sizes, weigh less than standard rims. And that's not all.

They Help Roll Up Mileage

Goodyear Wide Base Rims give up to 30%

greater tire mileage—as actual service records testify. The reason: these Wide Base Rims help reduce sidewall flexing—resulting in less tire heat, fewer tire failures and road delays.

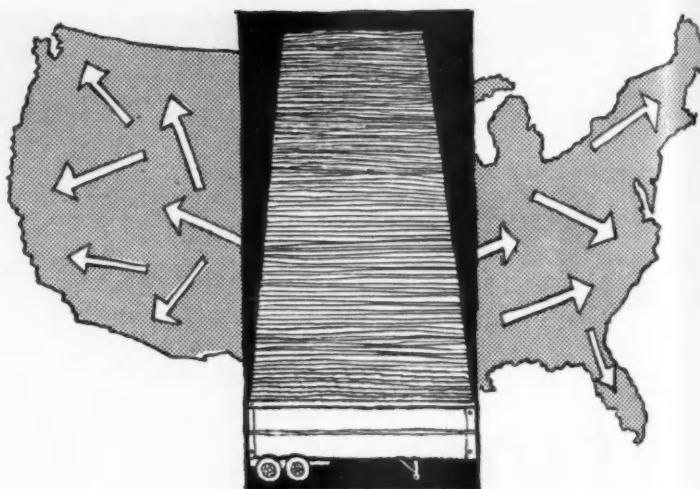
Lower Initial Cost, Too

And here's the best news of all. They even cost less to start with. Get the whole story on these unusual savings from your Goodyear Rim Supplier. Or write Goodyear, Metal Products Division, Akron 16, Ohio.

GOOD  **YEAR**
WIDE BASE RIMS

MORE TONS ARE CARRIED ON GOODYEAR RIMS THAN ON ANY OTHER KIND

13 fleets pool trailers and lease them back in a new plan that provides better utilization of equipment, releases capital, simplifies interchange



Trailer Pool

Offers Flexible, Efficient Service

NEARLY A year ago a group of 13 midwestern truck operators banded together to form a trailer pool for the purpose of cutting operating costs and simplifying trailer interchange. They organized what has become known as the National Trailer Pool, an industry owned and managed corporation with headquarters in St. Paul, Minn. The system has become in effect a leasing plan in that members lease back equipment in an arrangement that is unique in American transportation.

The 13 fleets turned in all trailers to the Pool and in return were issued stock in the company. They rent trailers back from the parent organization on a per diem basis as required. In this way each member is assured a sufficient number of trailers of the right type and specifications for peak or seasonal demands through the reserve built up and located at strategic centers in the areas served by the Pool.

Advantage of this group action is that of economics. Better utilization of equipment reduces costs. A flexible system of selecting bottoms generally results in a higher volume of freight being hauled per trailer. And finally, capital is released for other purposes.

New Members Welcome

The Pool is managed by a board of directors through a general manager. The corporation in no way

interferes with the management or operation of member truck lines since it functions only as a leasing system. Today the corporation is open to new members who may join under the same conditions as the original carriers.

Here specifically is how the Pool operates.

At designated cities throughout the nation, a large supply of new high cube trailers is pooled so that individual members may select as many pieces each day as they may need. They may keep the trailers as long as needed but may return them to the Pool in any city at any time. Charges are set up on the basis of a five-day week.

Standardized Trailers

All trailers furnished by the Pool are standardized for lower original and operating costs. Three types of units are available. 1. Hi-cube dry freighters of aluminum construction with sliding tandems to fit varying state weight laws and king pin settings to fit all types of tractors. 2. Special hi-volume reefers with the latest cooler units. 3. Volume convertibles with open tops, split headers and high cube construction features.

Costs of leasing units vary with the type of equipment required, the number of pieces pooled by the carrier and the mileage so that even basic figures cannot be given here as guides. Individual analysis must

be made for each carrier interested in joining the organization. Each of the 13 carriers who now make up the organization indicate that substantial savings are enjoyed through this type of approach.

Higher Utilization

Significance of the Pool in light of current fiscal and operating problems lies in the group approach it takes to financing of equipment at more advantageous terms as well as the standardization of equipment to fit operations in all sections of the country. Members are getting better utilization of their trailers. They get along with fewer trailers because they "peak" at different periods and trailers assigned to any single member are transferable to other members merely by executing a receipt form.

The Pool began operations with 1746 road trailers. In March of this year, one of the highest volume months since 1953, freight was handled with 300 less trailers than originally used by the 13 fleets due to better utilization of equipment. It should be noted here that these 300 extra trailers were not idle but were leased out to non-members.

Less Operating Cost

It is indicated that this system saves hundreds of thousands of dead head miles per year—a saving that is difficult to show but which must

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Drivers are always within earshot with Bell System mobile facilities

You get the most efficient use of company vehicles when you can reach your driver directly by telephone at any time. The Bell System offers several types of Mobile Radio arrangements.

General Service: Your fleet can be reached from any telephone. Also, your drivers can call any telephone reached by the Bell System.

Dispatching Service: Your dispatcher can talk to any units in your fleet.

Signaling Service: Your drivers can be signaled over this one-way service and carry out any prearranged instructions, such as calling your office from a public telephone.

Private Mobile Systems: Radio equipment will be provided and maintained for eligible radio licensees. You get the advantages of Bell System engineering, installation and maintenance experience.

Mobile communications can be engineered to meet your specific requirements. For a free survey of your needs, simply call your Bell Telephone business office.



BELL
TELEPHONE
SYSTEM



TELEPHONE TELETYPEWRITER MOBILE RADIO

Don't Monkey With the Frame—

Manufacturers Warn

The strength and durability of the frame is based on stress analysis as well as field experience. It is designed to the expected load, requires proper installation of body or fifth wheel for continued trouble-free operation

By Joe Geschelin, Detroit Technical Editor, Commercial Car Journal

IS THERE a simple formula for evaluating the strength and durability of chassis frames for heavy duty vehicles? That was the question aimed at us recently by one of the large fleet operators—a reader of CCJ.

Since then we have discussed the problem with a number of the truck manufacturers and were fortunate also in getting an opinion from the stress analyst for one of the largest of them.

Let us say at once there is no simple formula that a fleetman can use in evaluating frame design. We believe it is safe to assume that the buyer can bank upon the truck manufacturer as to the reliability and durability of the chassis for a given truck or tractor model, provided the operator does not intend to overload the vehicle materially beyond the GVW or GCW ratings.

Frame Selection

We are dealing here with an exceedingly complex matter. While the frame of a truck or tractor is established by its manufacturer, it is important to note that frame

selection may be seriously affected by the type of vocational body that may be installed by the operator; by the nature of the operation; by the manner in which the fifth wheel is installed on the tractor as well as the location of its king-pin with respect to the centerline of the rear axle.

The importance of body and fifth wheel applications may be judged from the fact that a number of heavy duty truck builders have issued special engineering bulletins on these subjects to their field organizations.

GMC, for example, issued a bulletin on fifth wheel mounting in May, 1955. It stresses that fifth wheel mountings are not to be welded to the frame side rails, nor are side rails and cross-members to be mutilated or altered in any way in making the installation. In addition to describing the specific methods of mounting for single-axle and tandem-axle vehicles, the GMC bulletin prescribes the manner in which reinforcements are to be applied; and cautions particularly regarding the correct

positioning of the fifth wheel in keeping with proper weight distribution for the kind of loading that is contemplated. The latter information is outlined specifically in the GMC sales data book.

Similarly, White is about to release an engineering bulletin to its field force to provide the ground rules for the selection of chassis frames for specific applications.

The Design Problem

Why is there no simple formula for the user to apply? In the first place, it is quite difficult to design any frame from scratch by the simple application of basic beam formulas. Frames are subjected not only to simple bending and shear but to dynamic loading as well as torsional loading. Even so, the stress analyst could do the job on paper were it possible to point a frame for a single application. But we need not tell you there is no single standard of conditions. Operators select a given vehicle for a variety of operating conditions, for a variety of load conditions, and for a variety of body and equipment types.

Under these circumstances, the manufacturer selects frame construction and size based upon experience gained in many years of operation. It is a sound rule that the kind of frame that has stood up in the past in all kinds of service without trouble will continue to be the right one.

Frame Mounting

However, a great deal of care must be exercised in the proper mounting of fifth wheels; in the proper mounting of special bodies such as dump bodies, cement mixers, etc. The truck builder urges

(TURN TO PAGE 124, PLEASE)



*Here's
the One
for the road!*

Look at the signal equipment of over-the-road vehicles and you will find that the greatest majority are **Signal-Stat** Equipped . . . for

It's truly . . .
the one for the road.
for service • for quality • for safety!

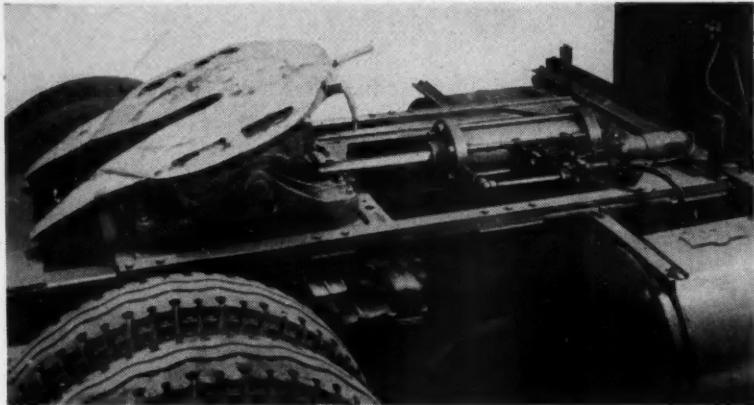
Signal-Stat

DIRECTIONAL SIGNALS • SWITCHES • FLASHERS

SIGNAL OF SAFETY • SYMBOL OF QUALITY

Signal-Stat Corporation, Brooklyn 11, N. Y., U. S. A.

care
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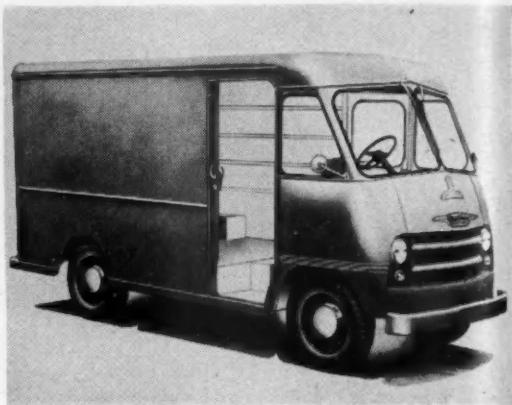


Adjustable 5th-Wheel Shifts Weight

TO MEET varying state axle load and length limits, Transportation Engineering Sales, Sheboygan, Wis., announces an hydraulically-operated, adjustable fifth wheel. A cab-controlled piston pulls the fifth wheel and trailer forward or pushes it backward to adjust the overall combination length or change the weight on the tractor drive axle.

Four models are available. For single-axle tractors, a 15 or 20 in. shift is available. For tandem-axle tractors, a 25 or 30 in. travel can be had. In combination with new "sliding" tandem axles for trailers, the new fifth wheel, says Transportation Engineering, will give maximum control of axle loads.

The company says the new unit makes it possible to shift 2000 lb from the tractor drive axle to the tractor front axle.



Boyertown Light Weight Body

THIS NEW series of delivery bodies built by Boyertown Auto Body Works, Boyertown, Pa., has been designed to mount on the new forward control stripped chassis. They provide greater loadspace with an interior width of 74 in. The driver's compartment has been increased in size for greater working convenience while driver's vision has been increased by 626 sq in.

Newly designed front of these "Merchandiser" bodies effects considerable weight savings and provides ease of repair and replacement of parts.

New High Cube Trailers from Edwards and Andrews

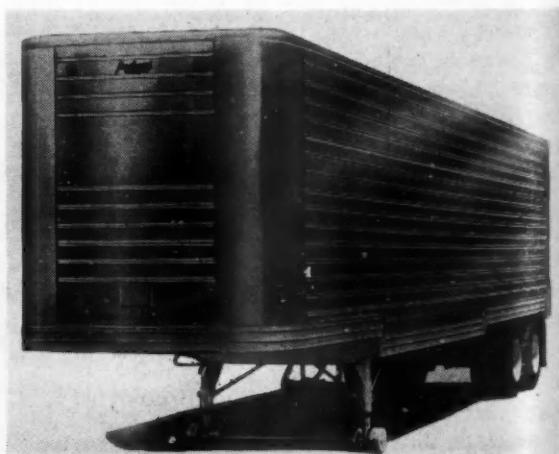
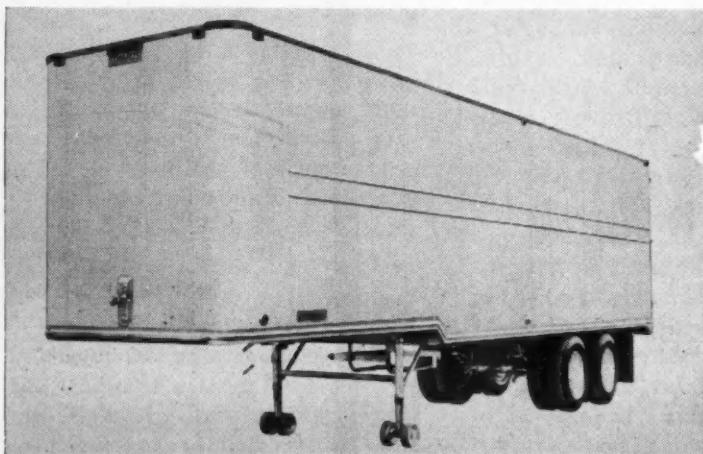
EDWARDS TRAILER CO., Detroit, has announced its "Twin" high volume trailers (below, left). The new drop-frame units are just alike except one is aluminum and the other steel. The aluminum unit features a new all-steel chassis.

They are available in 32 to 35 ft overall length models, measure 93 in. wide inside. Inside height is 99 in. behind and 93 in. ahead of the drop.

ANDREWS TRAILER CO., St. Louis, Mo., has a full cube model (below, right) now on the market. The new "Big Mo" is a lightweight exterior-post trailer. Fully 35 ft long, these high cube, dropped-frame vans offer 101 in. of clearance from floor to ceiling for more than $\frac{1}{3}$ the trailer length and a 93-in. height over tractor.

All-aluminum bodies of monocoque construction do away with space-

taking cross-bracing and reinforcement. Exterior post design eliminates need for linings and saves cost of installation, maintenance and excess weight. Other features include; load-bearing side walls, one-piece steel door frame, doors double-sealed and hung on four full-sized hinges instead of the usual three, vertical steel dock bumpers located on the sides of the door frames.

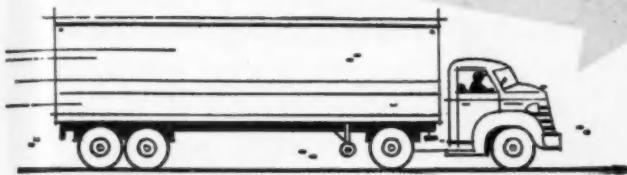


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EXTRA PROFIT-MILEAGE

BEGINS HERE



**KRAFT SYSTEM
RECAPPING
IS AUTHORIZED
ONLY BY THE
GENERAL TIRE &
RUBBER COMPANY**

KRAFT®

SYSTEM

RECAPPING

A GENERAL TIRE SERVICE

As more and more fleet operators are learning every day, bonus profit-mileage through quality recapping begins at the sign of the KRAFT System. A rare combination of top-quality material, methods and personnel make KRAFT your outstanding money-maker, mile after mile. For complete information on this business-like, factory-controlled system, call your General Tire Distributor—Headquarters for every Truck Tire Service.

**KRAFT—THE ONE NATIONAL RECAPPING SYSTEM
DESIGNED BY TRUCK TIRE MEN FOR TRUCKMEN**



CERTIFIED INSPECTION

Provides full assurance that tires can be recapped safely!



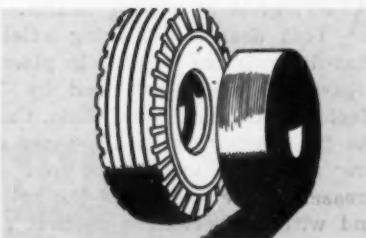
ACCURATE BUFFING

Precision-done for better adhesion of tread to tire body!



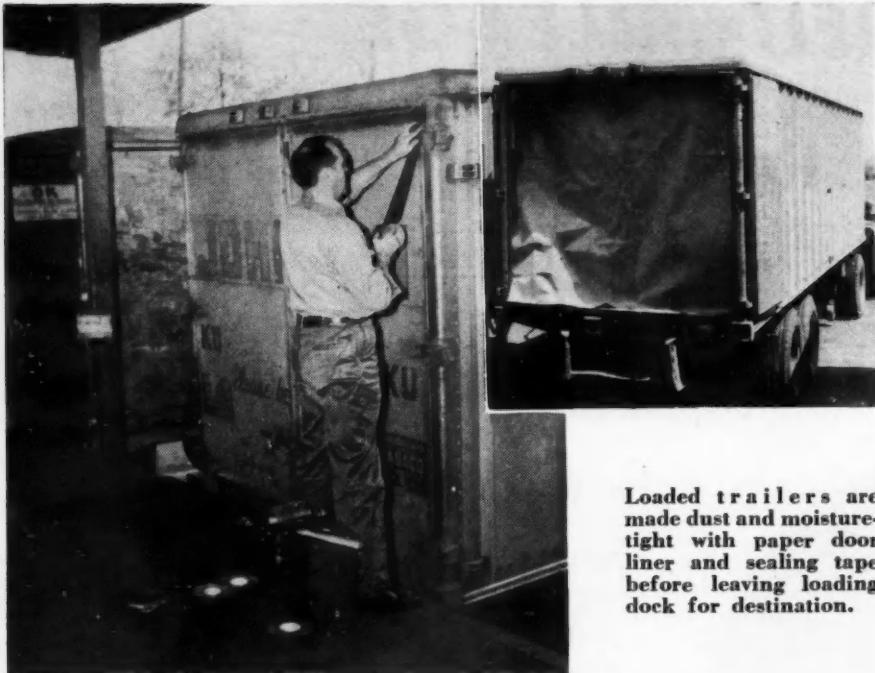
EXPERT BALANCING

This step alone can mean up to 25% more low-cost mileage!



NEW TIRE RUBBER

The same high-quality tread rubber used in new General Tires!



Loaded trailers are made dust and moisture-tight with paper door liner and sealing tape before leaving loading dock for destination.

Johnson Motor Lines Cuts Claims

JOHNSON MOTOR LINES, Charlotte, N. C., damage claims have taken a fast drop in recent years, as shown:

Water Damaged	
1952	\$26,535
1953	13,067
1954	5,469
Damage Claims from Leaky Drums	
1951	\$13,686
1952	7,257

According to C. C. Helms, claims department, there are several reasons for this reduction. Better packing is the first. Many shipments are protected with paper wrap. Then the door is closed and tape-sealed against moisture, as indicated in the two photos.

1953	3,157
1954	1,253

Door Sealing Kit

The sealing kit, seen in the photo consists of the following items:

- One-half gallon carbon tetrachloride
- Hammer
- Fibre brush
- Steel wire brush
- Screw driver
- Two rolls 2-in. tape
- Two rolls 3 in. tape
- Pair of pliers
- Putty knife
- Cutting knife

Space to be taped is scraped with the putty knife, brushed and cleaned with the carbon tetrachloride. The three-inch tape is used on door centers, two-inch tape on the outside.

Leaky Drums

Leaky drum damage is reduced by placing corrugated cardboard on the trailer floors before loading is started. This cushions the cargo against vibration. If leakage occurs, the liquid is somewhat absorbed by the paper and reduces damage to other cargo.

The camera is an important factor in damage reduction. When cargo arrives at a terminal in damaged condition a photo is taken and sent back to the terminal that loaded the goods. Photos usually show clearly just how improper loading caused the damage and discourage a repetition of the same trouble in the future.

There is a large sign on the terminal platform:

A SHIPMENT STARTED RIGHT
IS HALF WAY THERE.

Hub Seal Eliminates Bearing Packing

A SYSTEM of sealing bearings of both dead and driving axles so that fluid oil can be used in place of grease has been developed by The Mechanex Corp., Denver, Colo. Called the "Mechanex" oil seals, these sets are available to convert old felt grease retainer parts on the spindle and within wheel hubs so that both bearings run in a constant bath of oil. A leak-proof, O-ring sealed hub cap made of transparent and non-breakable material provides for quick and easy checking of the oil level.

Advantage of the oil seal is given as improved lubrication under all conditions in varied climates, with freer rolling of wheels especially at lower temperatures. Companies using this seal report that wheels need only be pulled to check or replace brake linings since repacking of bearings is not required. Mileages of over 50,000 miles are reported by fleets between change of oil in the reservoir. Visual inspections are made at 12,000 miles for oil level. This seal is now available for most makes and models



of trucks and trailers. Conversion is a simple process requiring no modifications to existing equipment.

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COMMERCIAL

They stay money-makers with Genuine Ford Parts!

**Cost-conscious fleet owners keep
their Fords on the road with
Genuine Ford Parts replacements**

Every day, fleets like the Alford Refrigerated Warehouse (below) are standardizing their service operation to Genuine Ford Parts! No wonder! Made to the same rigid engineering specifications as original Ford parts, Genuine Ford Parts install easily, quickly—cut down on costly “down time.” What’s more, since Ford parts have to undergo grueling track-tests before they’re approved for manufacture, you can be sure they’re built to *take it*.



“We’ve found the best way to get the best performance out of our Fords is by standardizing our operations to Genuine Ford Parts,” says Raymond L. Davis, Plant Superintendent of Alford Refrigerated Warehouse, Dallas, Texas. “They’re really built to last. Our books prove it!”



KEEP YOUR FLEET ON ITS FEET



Tire Fire Tests Demonstrate the Effectiveness of New "Karbaly" Extinguisher

KARBALOY in the latest type 2½-gal extinguisher with instant shut-off nozzle and spray tip will permanently put out truck tire fires, according to O. D. "Mike" Shipley, safety director, Pennsylvania Motor Truck Assn. Reporting at PMTA's annual meeting on the results of the Association's latest tests at Letterkenny Ordnance Depot, Shipley was most enthusiastic. It put it out and kept it out, Shipley said.

Commenting on the tests, Fyrfyer Co., makers of the extinguisher said, "Actually, we have made no change in the chemical content of the liquid, but we have changed its method of application to make it much more effective. We found sometime ago that when the Instant extinguisher is equipped with a shut-off nozzle, the liquid can be sprayed onto the burning surfaces of the tire with much better results. In fact, the shut-off nozzle includes a spray tip which 'fans' the liquid onto the burning surface and permits the operator to shut off the liquid supply at any time in an effort to gain a better vantage point to fight the fire."

Patrol cars on the New Jersey Turnpike and the New York Thruway are equipped with "Karbaly" charged extinguishers as are several fleet safety patrol cars. It does not yet have ICC approval as meeting requirements of the Commission's Safety Regulations, but in the 2½-gal size it does serve as an auxiliary extinguisher where tire fires are critical.

"Karbaly" is a loaded-stream type extinguisher. On contact with air and heat it forms an airtight seal or glaze on the burning surface, extinguishing the fire by cutting off the air. It also has a penetrating action so that more than the exterior surface becomes fire resistant.

Budd Wheels Out a Tubeless Tire Rim

BY UTILIZING a patented riveting process which has been used successfully in producing over 7 million passenger car wheels during the past five years, The Budd Co.'s Wheel Division in Detroit has completed delivery on 4500 22.5 x 7.50 tubeless tire wheels for Burlington Truck Lines' new fleet of 400 Fruehauf stainless steel trailers and 140 new tractors.

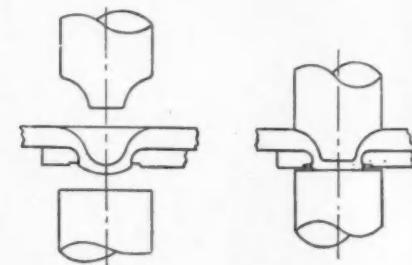
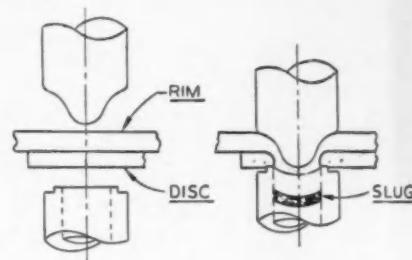
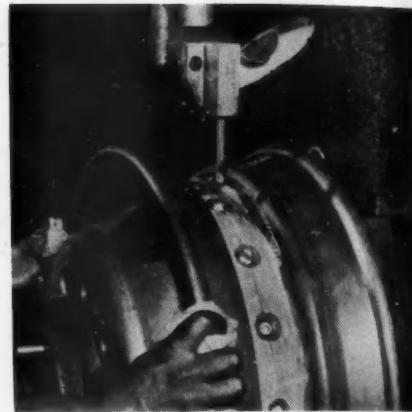
How has Budd solved the problem of successfully joining rim to disc to produce a guaranteed leakproof drop-center wheel?

The answer is a relatively simple riveting technique known as the integral rivet or, as more commonly known, the extruded rivet. The extruded rivet is formed by a process by which metal from the rim is forced into a hole punched simultaneously into the disc by the application of a 40 to 50-ton force. With the metal thus squeezed into the hole by the first press operation, a second stage finishes the riveting operation by press-fit locking of the two pieces.

No Holes in Rim

Since the rivet hole is punched in the disc and a portion of the rim metal depressed to fill the hole thus forming the "rivet," the rim surface remains unpierced and hence is absolutely airtight. A total of 18 rivets is used in the larger size truck wheels — 16 in the smaller size.

Budd is now making in production quantity truck wheels with extruded rivets for tubeless tires for ¾-ton trucks and for highway tractors and trailers. By the end of the month they will be in production on a complete line of tubeless tire truck wheels for highway vehicles.



1. The rim and disc assembly is positioned and clamped in extruding press

2. In first stage, round-nose punch depresses rim and disc metal. Disc metal is sheared by cutting die, leaving a hole into which metal extruded from the rim is simultaneously forced

3. Second press is used for second stage where a flat-nose punch and anvil form an "integral" rivet to clinch extruded rim metal to inside of disc

4. The complete wheel then has a rim without rivet holes, is fully airtight



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WE WERE IN THE DARK ABOUT CUTTING MAINTENANCE COSTS



**"But a switch to Cities Service C-300 Motor Oil lighted
the way to a 33½% reduction in maintenance costs!"**

Haupt Milk Transit Company, Manitowoc, Wisconsin, hauls milk and milk products throughout Wisconsin, upper Michigan and as far as Texas and Pennsylvania. Trucks, carrying 4000-gallon loads, average 80,000 to 100,000 miles per year.

"Three years ago," reports General Manager Carl Woehl, "our tractors were getting 75,000 miles between overhauls . . . and maintenance labor costs were becoming heavy. Then we switched to Cities Service C-300 Motor Oil.

"TO OUR SURPRISE, THIS UNUSUAL OIL NOT ONLY INCREASED THE PERIOD BETWEEN OVERHAULS FROM 75,000 TO 100,000 MILES, BUT ACTUALLY CUT OUR MAINTENANCE COSTS ONE THIRD! In addition, we found that oil consumption was cut two-thirds between 2500 mile changes with Cities Service C-300 . . . and the oil's high detergency has given us cleaner engines than ever before. Cities Service sure took us out of the dark about cutting maintenance costs!"

Why not enjoy a similar cost-cutting in your fleet operation? You can with Cities Service Lubricants. Contact your nearest Cities Service Office or write: Cities Service Oil Company, Sixty Wall Tower, New York 5, N.Y.



Haupt Got Double-Barreled Results using Cities Service C-300 Motor Oil. Maintenance Costs for its 14 tractors dropped 33½%, and period between overhaul was increased from 75,000 to 100,000 miles.



General Manager Carl Woehl says: "Hauling 4000 gallons of milk over long distances puts a lot of strain on a truck engine. Nevertheless, Cities Service C-300 Motor Oil cut oil consumption from three or four quarts every 2500 miles, to one or two quarts for the same distance."

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

August News Roundup

The Highway Program . . .

With Congress headed for a July 30 adjournment, at press time it looked like the final highway bill would be a compromise between S1048 as passed by the Senate (CCJ, June, pages 17 and 225) and HR7474 as reported out of the House Public Works Committee. (Compared in the chart below.)

HR7474 authorizes a total of \$24 billion for the Interstate System over a 12-year period. Annual authorizations start at \$1.2 billion, increase to \$2.5 billion in the eighth and ninth years, return to \$1.2 billion in the 12th year.

A total of \$725 million for federal-aid primary, secondary and urban highways would be authorized for the fiscal year ending June 30, 1957. The bill contemplates that future Congresses will add to this basic amount progressive annual increases of \$25

Federal-Aid Highway Proposals

The figures below are estimated annual amounts under the highway proposals being studied in Congress. They do not include an estimated \$22½ million a year in federal funds for forest highways, nor do they show about \$6200 million annually of state and local funds for non-federal-aid highways as contemplated by the President's original \$101-billion, 10-year highway program.

In millions of dollars	S1048 as passed by the Senate		HR7474	
	Federal	State & Local	Federal	State & Local
Interstate	\$1550 ¹	\$ 172	\$2000 ¹	\$ 222
Primary	400	400	388 ¹	388
Secondary	300	300	259 ¹	259
Urban	200	200	215 ¹	215
Total	\$2450	\$1072	\$2882 ¹	\$1084
Total Annual Program	\$3522		\$3946	

¹—Average per year.

1955 Domestic Truck Factory Sales by G.V.W.*

	5,000 lb. and less	5,001- 10,000	10,001- 14,000	14,001- 16,000	16,001- 18,500	18,501- 26,000	Over 26,000	Total
January	37,040	12,271	3,300	12,015	3,176	2,784	3,363	73,940
February	25,500	9,113	2,319	9,045	2,808	2,910	3,558	55,233
March	43,294	14,454	3,543	14,836	2,671	2,958	4,314	66,070
April	55,955	17,833	4,146	19,041	3,926	3,574	5,630	110,206
May	54,231	17,092	4,348	19,397	4,269	3,293	5,750	106,377
Total—5 Mos. 1955	216,020	70,853	17,653	74,334	16,050	15,519	22,615	433,854
Total—5 Mos. 1954	183,950	74,683	15,579	67,940	14,314	21,775	16,095	394,338

*—Automobile Manufacturers Association.

million during the 12-year period. Matching on the Interstate System would be 90 per cent federal and 10 per cent state. Matching on the other systems would remain 50-50.

User Tax Increases

Financing of the program proposed by HR 7474 would be by increased federal highway-use taxes. The House Public Works Committee voted 19 to 14 to reject the President's proposed financing by bond issue (CCJ, March, pages 17 and 83). It seemed likely that the Administration would approve the tax increases. Secretary of the Treasury Humphrey testified before the Committee that while he still favored the bond issue proposal, he would support any plan that would "do the job."

Including the increases in present federal highway-use taxes and new ones proposed in HR7474, here is how federal highway-use taxes would line-up: (1) gas tax—3¢ per gal, (2) diesel fuel—4¢ per gal, (3) manufacturer's excise tax on trucks, trailers—10 per cent, (4) tires in sizes 7.25 to 8.50 used on commercial vehicles—8¢ per lb, (5) tires used on commer-

cial vehicles over 8.50—15¢ per lb, (6) camelback for retreads—15¢ per lb, (7) inner tubes used on commercial vehicles over size 8.50 15¢ per lb, and (8) other inner tubes—9¢ per lb.

As proposed by HR7474, these taxes would be in effect for 16 years (until June 30, 1971). Tires with 6-in. crown or less would be exempt from the tax on camelback when being retreaded. Exempt from the increases in fuel, tire, tube and camelback taxes would be those used by airplanes, motorboats, railroad locomotives, farm vehicles, vehicles used in mines or intra-plant operation and similar off-highway vehicles. Transit companies whose operations are 75 per cent or more within their home city would have a similar exemption.

Size and Weight Freeze

HR7474 incorporates the size and weight freeze as contained in the Senate bill (S1048) with the effective date changed to Jan. 1, 1956.

Freight Claim Winners

Ninety-two trucking firms located in 30 states were awarded certificates (TURN TO PAGE 154, PLEASE)

Truck Drivers' Hotel



Motor World Hotel, Chicago, will be ready for occupancy this month. A 100 per cent fire proof building of steel, brick and stone, it is the first specific-industry hotel in the city and the first hotel of its kind catering to the professional truck driver in the United States. It is located in the "Terminal City" area. It will contain 150 single, private rooms, plus executive suites, a recreation area, conference rooms and other meeting facilities. A number of motor carriers have already contracted for blocks of rooms with indications that at the present rate of inquiry the Motor World will open with a better than 60 per cent occupancy on a contract basis. Ground floor shopping center will contain more than 15 shops to provide a complete range of service.

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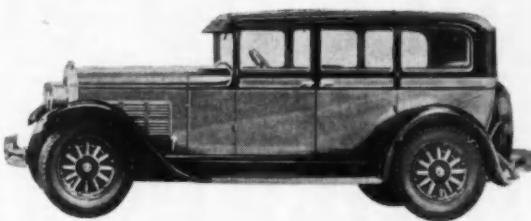
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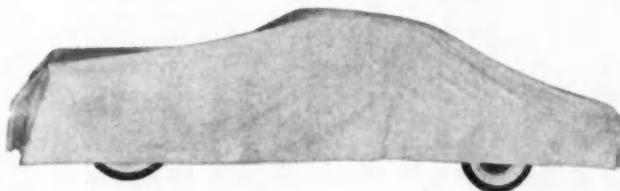
Whether it's steering linkage parts for

a 1928 auto...



...for today's
production models...

or that 195X experimental job...



You can count on

Thompson

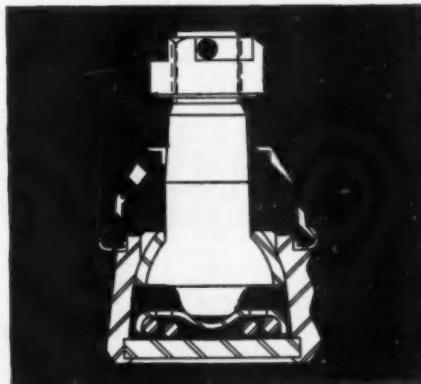
YES, manufacturers of automobiles, trucks, tractors and buses look to Thompson for a long list of dependable parts.

The Thompson Dual Bearing tie rod end is typical of Thompson Products' contribution to today's automobile. Among the many other Thompson products found on today's automobiles are the revolutionary new Thompson-engineered Ball Joints used in front wheel suspension and complete steering linkage units.

And typical of Thompson's dependability as a source of supply is the fact that Thompson is still manufacturing replacement steering linkage units for cars up to 27 years old.

Tomorrow's cars will use Thompson products, too, because automo-

tive manufacturers have learned they can count on Thompson to develop and manufacture dependable parts. If you use steering linkage units, why not use "Steering Linkage by Thompson". For full details on how Thompson can help you with your steering linkage problems, write, wire or phone Thompson Products, Inc., Michigan Division, 7881 Conant Avenue, Detroit 11, Michigan, WA 1-5010.



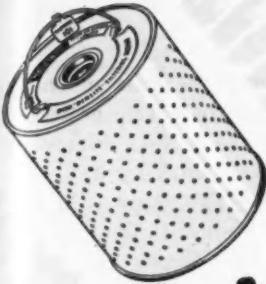
A Tie Rod End ball stud should fit snug in the socket. Any tie rod end starts that way but the extra bearing surface in the Thompson Dual Bearing tie rod end keeps the stud snug in the socket far longer.

Thompson Products

MICHIGAN DIVISION
DETROIT • FRUITPORT • PORTLAND

1955 New Truck Registrations by Makes by States*

STATE AND MONTH	Brockway	Chevrolet	Diamond T	Dodge	Ford	G.M.C.	International	Mack	Reo	Studebaker	White	Willys Jeep	Willys Truck	All Others	Total	
Alabama.....		581	2	97	477	196	161	10	1	6	26	3	5	3	1,588	
May.....	2,555	11	472	2,423	616	698	53	9	41	85	24	32	21	7,046		
Arizona.....	200	72	163	60	51	5	1	17	2	8	21	7	607	7,046		
Arkansas.....	691	3	256	732	215	212	11	4	47	21	44	90	27	2,353	7,046	
May.....	451	1	57	390	90	98				17	5	3	4	1,116	7,046	
California.....	1,992	9	347	2,333	473	533	12	4	88	28	31	18		5,888	7,046	
May.....	2,885	45	505	2,217	792	603	31	22	127	41	110	162	143	7,046	7,046	
Colorado.....	35	9,917	124	2,750	10,870	2,750	2,348	149	66	508	329	561	846	529	31,902	7,046
May.....	378	3	67	277	83	107	6	3	13	10	36	67	15	1,066	7,046	
Connecticut.....	1	1,334	9	365	1,411	351	490	52	19	68	38	202	304	88	4,731	7,046
May.....	10	803	28	249	786	198	395	77	15	35	93	35	27	23	856	7,046
Delaware.....		100		27	70	37	47	35		1	83	84	50	2,856	7,046	
May.....	2	342	1	95	254	96	194	159		1	5	119	8	3	409	7,046
District of Columbia.....		52	1	15	74	131	25			1	6	1	8	9	1,290	7,046
May.....	2	246	1	80	157	82	76	7		5	32	33	21	17	323	7,046
Florida.....		776	3	123	886	158	152	38		1	8	3	15	9	939	7,046
May.....	3,068	25	698	3,740	754	892	184	48	165	205	148	275	98	10,328	7,046	
Georgia.....		943	1	169	806	167	216	31	1	19	10	13	8	9	10,328	7,046
May.....	3,445	12	842	3,800	731	949	118	18	126	114	55	40	52	3	2,388	7,046
Idaho.....		214	1	45	157	82	76	7		17	3	18	52	3	675	7,046
May.....	631	6	201	670	253	356	20	4	68	20	71	171	17	2,468	7,046	
Illinois.....		1,246	19	247	505	153	275	24	8	37	48	33	21	17	3,076	7,046
Indiana.....		4,349	164	1,246	5,051	812	2,489	123	66	194	254	150	174	127	15,201	7,046
May.....	1,036	18	173	807	224	354	17	11	62	58	12	26	12	2,810	7,046	
Iowa.....		3,429	47	765	3,506	661	1,830	77	44	344	247	57	96	74	11,174	7,046
May.....	592	9	69	481	90	248	9	3	12	7	4	8	12	1,544	7,046	
Kansas.....		2,123	40	428	2,400	314	1,399	44	10	81	54	28	55	47	7,025	7,046
May.....	738	3	73	492	166	168	2	2	25	19	2	11	2	1,701	7,046	
Kentucky.....		2,553	13	337	2,337	490	901	1	18	89	58	26	82	7	6,912	7,046
May.....	581	4	83	410	160	158	24	3	21	8	19	9	1	1,481	7,046	
Louisiana.....		2,231	11	344	1,976	528	648	52	8	84	65	79	70	19	6,115	7,046
May.....	748	7	112	586	141	170	6	3	36	3	4	7	12	1,923	7,046	
Maine.....		2,983	15	479	3,146	550	539	28	5	143	68	60	36	4	9,376	7,046
May.....	304		42	243	94	98	42	17	12	22	27	27	4	905	7,046	
Maryland.....		1	703	1	133	644	187	263	61	1	46	30	58	13	2,239	7,046
May.....	2,398		79	326	50	110	11	4	10	8	1	11	4	1,014	7,046	
Massachusetts.....		9	1,237	24	350	1,383	184	527	95	16	56	68	25	24	4,053	7,046
May.....	2,433	11	102	445	95	218	41	5	12	29	4	40	51	1,488	7,046	
Michigan.....		1,437	49	367	1,999	288	896	150	31	52	163	147	96	5,536	7,046	
May.....	1,413	16	299	1,295	316	224	20	18	35	32	27	35	27	3,757	7,046	
Minnesota.....		4,778	72	1,253	5,914	1,114	1,036	88	59	118	127	109	162	138	14,986	7,046
May.....	720	6	122	756	153	273	7	13	39	10	8	20	5	2,132	7,046	
Mississippi.....		2,301	31	461	2,753	419	1,024	31	23	117	38	46	111	37	7,390	7,046
May.....	623		75	483	158	135	6		13	6	2	2	1	1,903	7,046	
Missouri.....		2,484	1	345	2,368	579	658	14		86	18	19	38	3	6,613	7,046
May.....	976	6	95	723	225	273	14	2	19	28	7	14	11	2,381	7,046	
Montana.....		3,657	73	590	3,497	738	1,324	35	11	91	127	45	67	37	10,292	7,046
May.....	167	1	26	175	61	79	3	2	16	5	15	37	4	591	7,046	
Nebraska.....		605	1	203	748	220	380	19	4	22	52	15	22	25	2,803	7,046
May.....	341	11	41	274	90	166	1	3	10	11	8	7	18	8,437	7,046	
Nevada.....		1,421	61	311	1,619	318	885	13	15	63	46	98	122	5,031	7,046	
May.....	71		26	73	32	3			13	5	14	1	1	238	7,046	
New Hampshire.....		210		117	282	104	151	1	1	61	28	73	4	1,033	7,046	
May.....	4	113	1	30	97	33	7	13	5	2	1	18	6	353	7,046	
New Jersey.....		4	344	2	102	369	60	79	31	7	22	41	65	12	1,164	7,046
May.....	14	703	8	145	622	238	202	70	4	22	52	23	22	30	2,147	7,046
New Mexico.....		75	2,297	56	795	2,602	760	916	215	24	89	276	60	136	8,437	7,046
May.....	270	2	46	204	80	48	14	14	2	12	1	12	19	4	712	7,046
New York.....		30	1,151	26	307	1,074	287	652	89	33	98	84	88	48	3,980	7,046
May.....	189	4,406	142	1,979	4,826	1,300	2,975	490	172	198	548	286	497	305	18,314	7,046
North Carolina.....		917	7	110	583	167	111	44	2	33	40	15	14	5	2,048	7,046
May.....	3,000	26	617	3,008	584	670	160	9	147	154	70	58	23	5,526	7,046	
North Dakota.....		124	1	27	123	33	66			4	3	2	1	1	383	7,046
May.....	356	2	137	473	130	423			16	2	12	22		1,573	7,046	
Ohio.....		1,407	23	280	1,152	313	488	44	12	36	77	32	43	62	3,969	7,046
May.....	4,777	71	1,229	5,620	890	2,412	73	175	384	160	216	212		16,428	7,046	
Oklahoma.....		703	1	76	515	128	167	6	5	16	11	9	6	2	1,045	7,046
May.....	2,268	2	364	2,332	480	862	36	8	72	66	27	44	16	6,577	7,046	
Oregon.....		389	20	64	400	129	118	11	4	19	28	21	62	18	1,283	7,046
May.....	1,324	39	362	1,626	452	585	52	16	100	111	122	346	107	5,242	7,046	
Pennsylvania.....		27	1,399	21	369	1,143	242	846	81	18	67	103	6	100	4,257	7,046
May.....	94	4,162	69	1,437	4,947	808	2,683	361	99	239	374	27	419	97	15,794	7,046
Rhode Island.....		1	75	4	22	70	14	25	8	8	4	3	5	239	1,128	7,046
May.....	2	327	22	72	390	39	165	25	5	12	28	9	16	14	940	7,046
South Carolina.....		350	2	59	247	70	63	11	11	13	1	4	1	1	3,477	7,046
May.....	1,233	6	266	1,286	231	286	42	41	53	15	15	1	1	1	463	7,046
South Dakota.....		157	2	19	109	50	100	1	2	2	10	46	94	2,271	7,046	
May.....	557	12	139	678	171	547	1	2	24	10	46	16	6	2,158	7,046	
Tennessee.....		508	3	89	451	224	145	85	1	19	16	6	9	4	2,584	7,046
May.....	2,166	14	580	2,412	619	736	112	11	78	102	37	33	4	6,884	7,046	
Texas.....		1,794	2	212	1,683	245	572	39	10	46	77	37				



Hastings Oil Filter

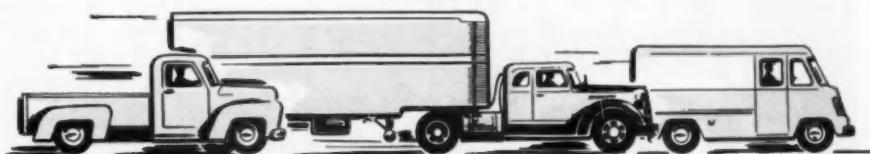
Cartridges keep oil clean

from

filter change to

filter change*

when re-
placed as normally recom-
mended.



The reason is... Densite

*As proved by tests conducted in accordance with U. S. Bureau of Standards procedure.



Densite—an amazing new type of filtering material—is made of millions of selected raw cotton fibres, pressure packed so oil must flow through countless tiny openings, pass many surfaces of fibres. The most microscopic abrasives cling to these fibres—and stay there!

Install Hastings Cartridges at the next oil change. Follow normal replacement recommendations—and your trucks will have clean oil all the time! That means less engine wear, fewer repairs, lower maintenance costs.

HASTINGS MANUFACTURING CO. • HASTINGS, MICH.
Oil Filters, Piston Rings, Casite, Spark Plugs

HASTINGS
OIL FILTER CARTRIDGES
WITH DENSITE

Greyhound Washer Cuts Bus Ready Time

Continued from Page 79

handles an average of 300 busses every 24 hours, and in winter, about 150 during the same period. Located on the city's near north side, the garage is about 20 min away from Greyhound's huge new Loop terminal.

Busses pass through the rou-

tine-servicing lines at the end of each trip into Chicago. Getting the equipment ready for the next load seldom takes longer than an hour and a half. Units are cleaned, washed, inspected, and lubricated in that order.

Doors at both ends of the ser-

vicing area are raised and lowered by photoelectric cells. These devices have added several minutes to each working day, according to Garage Supt. Parker A. Frye. For now, it isn't necessary to make two trips to a control panel every time a bus has to be driven in or out. Having robot-controlled doors saves money on heat in winter, for hand-operated doors are often left open far longer than is necessary when shop personnel are busy. And the cold air that comes in can be an expensive commodity.

Electric eye units are mounted on both the inner and outer sides of each door. Two photoelectric cells are required for each side. One unit is placed near the top of the door, about 12 ft above the ground, the other on the door frame, at a height of about 6 ft.

In the Greyhound installation, the units needed at the top of adjoining doors are mounted on one metal rod. This rod extends horizontally a distance of about 5 ft from the vertical I-beam frame in between. The other photoelectric cells are mounted on either side of the pair of doors. As the bus breaks the beam on the outside, the doors go up. They remain up until the bus has passed beyond the inner beam.

First Step—Clean

The busses are cleaned just inside the doors at the north end of the service area. At the garage's former location, on Chicago's south side, debris was swept onto the floor, and then was shoveled into metal refuse cans. A lift truck was needed to move the cans outside, where they were picked up by a scavenger.

At the new garage, debris is swept into fiberboard boxes, transferred to shop-built metal waste carts which are mounted on casters, and is then carried into an incinerator room adjoining the service floor. These carts—about 5 ft high, 4 ft wide, and 4 ft deep—replace the 12-16 metal containers and the lift truck formerly required. As a result of the change, appearance of the service floor has been improved; elimina-

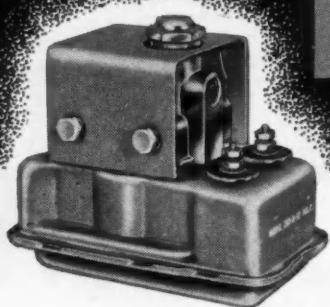
(TURN TO PAGE 110, PLEASE)

COMMERCIAL CAR JOURNAL, August, 1955

stop **Vapor lock**
...for good!

WITH STEWART-WARNER

**Electric
fuel pump**



- for faster starts,
winter and summer
- for positive gas-flow . . . always!

Vapor lock means deadlock . . . in your trucking and transporting operations. Time wasted, schedules shot, money lost. You can avoid it by installing a Stewart-Warner Electric Fuel Pump on your trucks and buses. Assures engine a positive fuel supply at all times. The result is faster starts, consistently dependable performance . . . all year!

The minute the ignition switch is turned on, gas is fed to the engine.

That's because the Stewart-Warner Electrical Fuel Pump operates independently of the engine, works only as needed, eliminates battery grind. Stalling is a thing of the past.

Heavy duty construction, sealed against rain and road-splash, protected under all conditions. Installation is simple on any truck, bus or car. Begin now to save with Stewart-Warner Electric Fuel Pumps. See your dealer or write:

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Instrument Division, Dept. DD-85
1840 Diversey Parkway, Chicago 14, Illinois



Erni

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Ernie buys 'em... Al rides 'em... Bill checks 'em (...AND THEY ALL RATE DIAMOND T "TOPS"!)



THE Sealy Mattress Company in Cleveland operates a fleet of 7 Diamond T's. These rugged tractors each average 5600 miles per month, hauling 36½-foot trailers with capacity loads.



ERNIE WULIGER, General Manager, who buys the company's rolling stock, says, "On a basis of initial cost, all-around performance and low-cost operation, Diamond T's are tops. They operate for about 7.6¢ a mile, including repairs, oil, gas, tires and depreciation. Such economical delivery costs enable us to be competitive on price as well as quality, in markets outside our immediate territory."

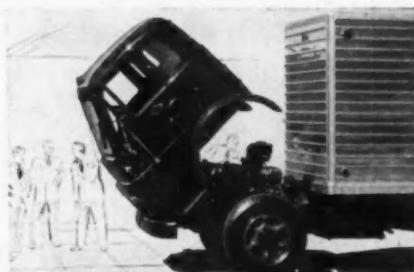


AL SIEGAL, company driver for 6 years, says, "I've driven almost all makes of trucks and Diamond T performs the best. Rides and handles like a passenger car. Pulls uphill easily. Starts right up in any weather. Much less fatigue after a long haul, too."



BILL BRANNON, Plant Superintendent, says, "Our Diamond T's put in less time in the shop than any we've tried. Our records show they average 3% faster operating speed. Tires on the drive wheels of our Diamond T's deliver exceptionally good mileage."

There's a Diamond T to match your requirements and save you money! Diamond T builds a complete line of heavy-duty trucks and tractors from 1½ tons to giant diesel six-wheelers. Conventional models or modern Diamond T Tilt-Cab models. Have your Diamond T custom-built to your exact job requirements. See your dealer or write Diamond T Motor Car Co., Chicago 23, Ill.



DIAMOND T MOTOR CAR CO.
CHICAGO 23, ILL.

DIAMOND T TRUCKS

COMMERCIAL CAR JOURNAL, August, 1955

Greyhound Washer . . .

Continued from Page 108

tion of the lift truck has cut costs; storage room for the metal containers is no longer required, and fire hazard has been reduced.

Second Step—Wash

After the bus has been cleaned, it is washed. The garage has a specially-built Ross and White

unit for this job. The unit, which weighs 9 tons, and measures 13 ft 4 in. high, 19 ft 4 in. wide, and 12 ft 6 in. deep, is mounted on a metal frame which moves on railroad tracks across all four servicing lanes. By moving the washing rig to the bus, instead of vice versa, both time and money have been saved.

At the former location, Greyhound had a stationary Ross and White machine. Busses from the

four lines had to funnel through what amounted to a bottleneck. Ninety ft were required in front of the machine for maneuvering room. This space has been eliminated at the new garage. Washing operations have been speeded up as well. For it used to take at least two minutes to get the bus into position, and another minute to run it through the spray. Now, only one of the three minutes is needed.

One man, the hostler, operates both the washing machine and the bus to be washed. First, he positions the rig, turns on the spray, and starts the brushes rotating. Then he drives the bus through.

Water, electric power, and air needed to operate the washing rig are supplied through flexible hoses and cable attached to outlets in the garage ceiling. The outlets are located above a point between service lanes 2 and 3, at the midpoint of the washer's track. As the rig moves, these lines are paid out from reels attached to the top of the frame. A spring device enables the reels to rewind automatically.

The water hose is too heavy to hang freely as it is paid out, so a trough is attached to the roof trusses alongside the path traversed by the reel. As the hose unwinds, it falls into this trough.

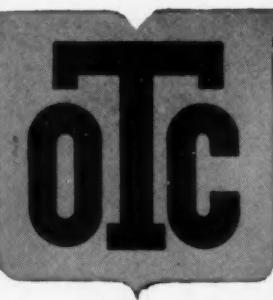
The business end of the water hose delivers 300 gal per minute, at a pressure of 50 lb per square inch, to a water pump powered by a 10 hp motor. The pump supplies 275 gpm to the spray nozzles. Pressure at the nozzles ranges from 45 to 50 psi.

Curtain of Water

As the bus enters the washing rig, it is hit on the sides and top by a curtain of water emanating from cone-pattern spray nozzles, mounted 12 in. apart. Smaller sprays cover each brush with water as it rotates over the bus surface. Then, at the rear of the rig, the bus passes through another water curtain, roughly similar to the first one.

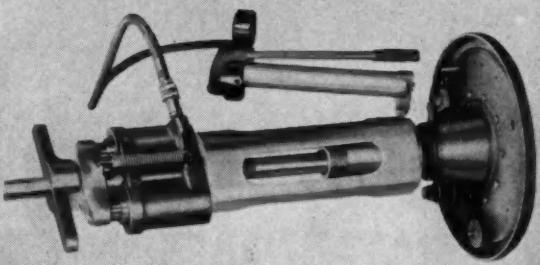
Electric current from a ceiling junction box feeds through the reel-mounted flexible cable to a

(TURN TO PAGE 114, PLEASE)



ANNOUNCES

HYDRAULIC TRUCK AXLE TUBE PULLER



OTC 50 Ton hydraulic unit removing tube from truck axle housing—set up and pulling takes only a few minutes.

SAVE HOURS
OF LABOR

AND DOWN TIME ON EVERY PULLING JOB

With this new OTC 50 Ton hydraulic puller set, truck axle tubes may be removed (even if broken) and installed in minutes instead of hours. Assembly is simple and positive—tubes are removed without damage—and installed without distortion. Costly Down Time is cut by hours.

SEE YOUR JOBBER OR WRITE US FOR COMPLETE INFORMATION



One man can quickly install a truck axle tube without distortion with a new OTC 50 Ton hydraulic unit.

FREE NEW
HYDRAULIC
PULLING BOOKLET

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906
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930
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AT ONLY
\$880**

WALKER "SERIES 900"—8 MODELS TO CHOOSE FROM

No.	Ton Capacity	Price
906	1 1/2	\$ 8.80
925	3	14.95
930	5	17.10
935	8	20.45
945	12	27.55
953	20	46.00
960	30	89.30
965	50	135.00

JACKS • EXHAUST SILENCERS • OIL FILTERS

There's a Walker
"Series 900"
Portable Hydraulic
Jack for Every
Type of Truck.

All prices
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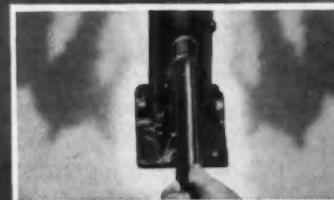
**GET THESE
PLUS-PERFORMANCE
"900" FEATURES**
See your Walker Jobber!



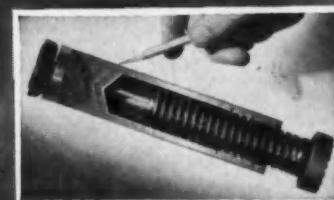
Armor-Designed "Projectile"
Tank to withstand shock.



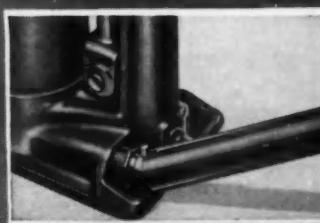
"Self-Locking" Extension
Screw with
Non-Breakable Integral Cap



"Pendulum Balance" for
easy, fast positioning.



"Solid-End" Lifting Ram
resists eccentric loads



"Micro-Accurate" Release
for safe lowering

Foote Lithium Does It!

Use **1** Lithium Base Grease



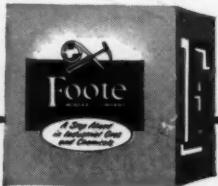
...for ALL JOBS at ALL Temperatures

You will keep your "payloads" rolling at lower cost per mile when you use ONE lithium base, multi-purpose grease from bumper to bumper. Correct lubrication is assured because you use the same grease for wheel bearings, chassis, water pump and universal joints . . . greasing operations are simplified . . . inventory is reduced. All of these advantages and savings can be yours.

Here is the important thing to know—a lithium base, multi-purpose grease is the ONE grease that resists water and lubricates effectively under all conditions at temperatures ranging from -50°F to over 350°F .

It will pay you to contact your grease supplier for lithium base, multi-purpose lubricating grease.

We will be glad to send you a copy of
"Front Wheel Bearing Lubrication,"
an N.L.G.I. report.



LITHIUM HYDROXIDE
FOR INDUSTRY

FOOTE MINERAL COMPANY

445 Eighteen W. Chelten Bldg., Phila. 44, Pa.

RESEARCH LABORATORIES: Berwyn, Pa.

PLANTS: Exton, Pa.; Kings Mountain, N.C.; Sunbright, Va.

Greyhound Washer . . .

Continued from Page 110

control panel on the washing rig. Power is needed both to move the rig and to rotate the brushes. The former job is performed by a 2 hp, 1200 rpm motor. The washing rig moves 30 ft per minute and positions in each servicing lane automatically. Movement from one lane to another takes about half a minute.

The machine has nine brushes, each one rotated by motors ranging from $1\frac{1}{2}$ to 3 hp. The biggest brushes are 9 ft 9 in. long; they're mounted vertically, and cover the sides of the bus. Two smaller brushes cover the windows. The roof is serviced by a horizontally-mounted brush, 6 ft long, and by four 2-ft long units, positioned at an angle so they can clean the corners efficiently. All five roof brushes have varying diameters so they can follow the roof contour.

A reel-mounted hose feeds air to a control panel which operates air cylinders attached to each brush. The cylinders provide the tension needed to keep the brushes pressed against the bus surface. Heights of Greyhound units range from 9 ft 3 in. for short-haul units to 11 ft 3 in. for the new "scenic-cruiser." The air system is designed so that tension on the brushes can be adjusted to accommodate each type of unit.

The front and back of each bus are washed with a detergent-water mix after it comes out of the machine. Overhead hoses connected to ceiling outlets supply water to these surfaces. Liquid detergent, kept in 15-gal tubs, is applied with long-handled brushes.

Third Step—Lube

After this operation is completed, the bus is driven onto one of the four servicing pits for an inspection and lubrication. First step in the routine inspection is to visually inspect the underside of the bus. Mechanics check for loose stay bar linkage, worn

(TURN TO PAGE 116, PLEASE)



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Break-in time costs you money...install pre-seated Krome-Oil



AMERICAN HAMMERED Pre-seated Krome-Oil PISTON RING SETS

**Pre-seated narrow land
contact surface of Krome-Oil
top groove compression ring**

Pre-seating means early break-in, fewer costly hours on the break-in stand. It is a factory-applied lapping process for the top groove compression ring equivalent to many hundreds of miles of *actual* engine operation. Sell and install chrome, with its long wearing qualities, confidently because Krome-Oil rings are pre-seated. They break-in instantly, deliver premium performance all the way.

All-in-one ring envelope

All-in-one ring envelope contains all the rings for one piston. They're packaged in this envelope in the order of installation. This prevents mix-ups, saves yours or mechanic's time. A real help and time-saver in the shop.



**Install
Krome-Oil**

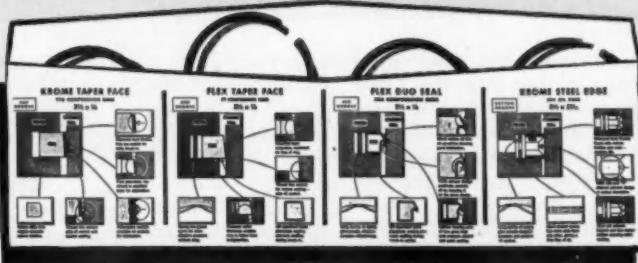
*the chrome ring set
with all the answers*



Look for
chrome here
...to install a
full chrome
ring set

When you install
chrome, be sure

you're installing a full chrome ring set. Check for chrome on the top groove compression ring, on the side rails of the oil ring. Install chrome confidently because Krome-Oil is *pre-seated, seats instantly, doesn't scuff*, and pays off in *longer engine life*.



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Manufacturers of American Hammered Automotive Replacement Piston Rings.
A Division of Sealed Power Corporation

For the best in fleet maintenance remember American Hammered
Power-Plus Service—Koetherizing • GI-60 Groove Insert • Dry Film Lubricant

Greyhound Washer . . .

Continued from Page 114

spring shackles and rubber grommets, plus leakage in the compressed air system, among other items, as well as oil leaks and supply of transmission and differential grease. Then an examination of the bus interior is made, especially for torn seats and cracked glass that will impair the driver's

vision. Lights, horn, brakes, and steering are also checked.

Lubrication, transmission, and differential grease are piped into each pit from 55-gal barrels located in a room adjoining the service floor. A 400 psi pump, connected into the lube grease system, replaces the four that would be required in the pits, resulting in a substantial saving of cost and maintenance time, according to Sunt. Frve.

Fuel and Oil

Fuel islands containing diesel fuel, gasoline, and oil dispensers, are located between pits 1 and 2, 3 and 4. The oil is supplied from a 5000-gal underground reservoir. Drained oil also flows through pipes. After being collected in a pit drain pan, it flows by gravity to a 500-gal underground tank. Some is then re-refined by an outside firm so it can be used again; the remainder is sold for other uses.

Printers register the amount of gasoline or diesel fuel that goes into each bus. These units stamp the meter reading at the beginning and end of each delivery on a service ticket that follows the bus down the routine servicing line. Main advantage of automatically printing this data are reduction of the time required to record the information, and reduction of the chance of error.

After the bus has been serviced, it is taken outside to the ready line. Greyhound has saved "several thousand dollars," according to company maintenance officials, by using parking heaters instead of an enclosed storage area, to protect its equipment from the weather.

END

Please Resume Reading Page 80

Air Pillow Tires



This 8½ hp. Model AEN 4-cycle single-cylinder Wisconsin Air-Cooled Engine operates the "Power-Pak" hydraulic system. It's equipped with electric starter and generator.

This installation, made by Transportation Equipment Co., Los Angeles, Calif., shows The Heil Co. Heiloader elevating tail gate powered by a "Power-Pak" unit, suspended below trailer chassis. A Model AEN Wisconsin Engine operates the hydraulic pump that actuates and controls Lift Gate . . . handling loads up to 2,000 lbs., lifting from ground level to trailer bed. Using this hydraulic tail gate, the driver of the truck quickly loads and unloads heavy, bulky objects *alone* . . . doing the work faster than two men handling the material manually.

Since the usefulness of the elevating tail gate depends upon the Power Unit, the engine must represent the last word in operating dependability. Every Wisconsin heavy-duty feature is built into this engine, including tapered roller main bearings at BOTH ends of the crankshaft and rotary type high tension Magneto. Foolproof AIR-COOLING eliminates all cooling problems at temperatures from sub-zero to 140° F.

For power to match the equipment, you can't do better than specify "Wisconsin Heavy-Duty Air-Cooled Engines".



WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

Accident

were analyzed, not explain them, been concluded, develop an explanation of their own dreams, traveling distances, local incidents etc., is a psychological repeated success, results in its being as a habit.

Poor as we practices thus habits when the accidents. The frequency of near accidents in compared to those driven without easily lead to driving ability.

Social Forces
and safety may be social forces of this area, consider the great need for assessing attitudes on the influences of drivers and rates. Since observation of direct, the evidence to what driver attitudes and highway safety



"Can't even f-

Accident Studies . . . Safe Driving Tips

Continued from Page 69

were analyzed, many drivers could not explain their mishaps. It has been concluded that drivers may develop an exaggerated sense of their own driving ability from traveling distances without critical incidents or near-accidents. It is a psychological axiom that repeated success in an activity results in its being more firmly fixed as a habit.

Poor as well as good driving practices thus tend to become habits when they do not result in accidents. The relative infrequency of near-accidents and accidents in drivers' experience, compared to the number of miles driven without incident can thus easily lead to the belief that their driving ability is high.

Social Forces: Driver behavior and safety may also be affected by social forces. Little is known of this area, which many writers consider the most important one in highway accidents. There is great need for better methods of assessing attitudes and for studies on the effect of various social influences on the attitudes of drivers and on trends in accident rates. Since measurement and observation of attitudes must be indirect, the evidence is indirect as to what driver attitudes are, how attitudes and behavior are changed, and how they affect highway safety.



COMMERCIAL CAR JOURNAL, August, 1955

Observation of drivers under various traffic conditions or in relation to specific maneuvers has been one source of inference about attitudes. A common attitude seems to be that other drivers will take defensive action

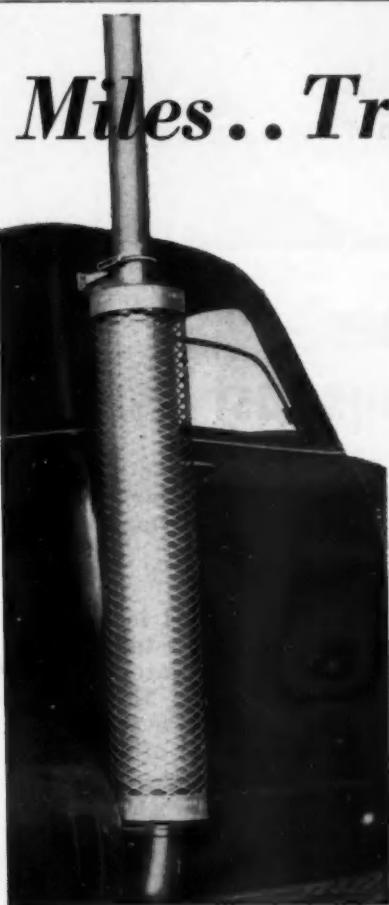
when insufficient time or distance has been allowed for completing a traffic maneuver. Another common attitude involves the assumption of a clear roadway ahead, as at curves and hilltops, even though it cannot be seen.

Law Enforcement

A number of studies have shown that traffic law enforcement is a factor in improved accident prevention.

(TURN TO NEXT PAGE, PLEASE)

Miles..Trips..Hours!



RIKER
EXHAUST SYSTEM
ACCESSORIES
too!

RIKER

MUFFLERS

are BUILT for
LONGER SERVICE

Consider heavy duty truck mufflers by any measure and RIKER Muffler performance results in longer service and lower operating cost. Here's why:

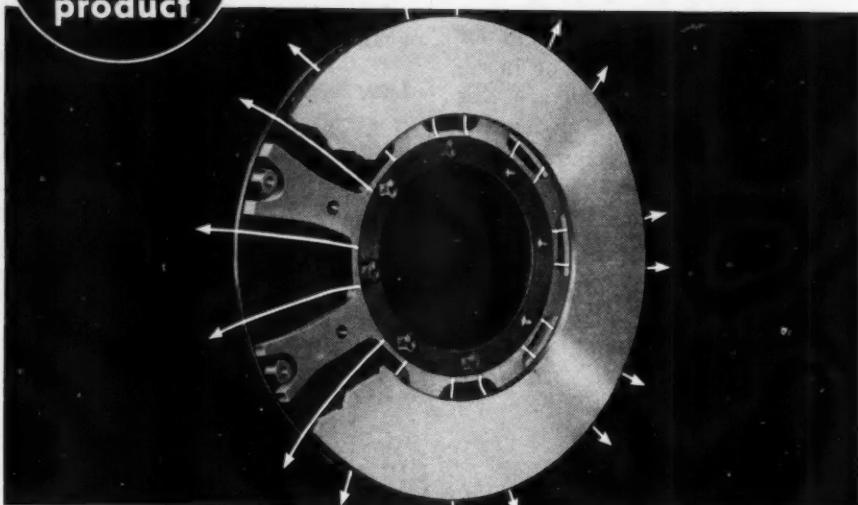
- **RIKER DESIGN** — Long-distance highway testing by truck operators proves MORE HORSEPOWER OUTPUT—MORE FUEL ECONOMY—MORE ENGINE EFFICIENCY.
- **RIKER QUALITY** — Heavy-gauge metal throughout. Welded seam construction.
- **RIKER PERFORMANCE** — Less Replacements, Less Down Time, Less Maintenance Cost—LESS NOISE.

Ask your Jobber or write . . .

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TOLEDO 12, OHIO
DESIGNERS & MANUFACTURERS • HEAVY DUTY MUFFLERS & ACCESSORIES

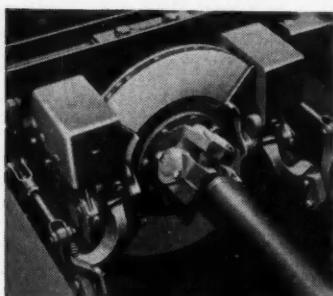


Specify Tru-Stop Emergency Brakes



This Brake "Breathes"— and Linings Last Longer

• TRU-STOP Emergency Brakes are offered by leading manufacturers of trucks, buses, tractors and special equipment either as standard or optional equipment. Specify factory installation of TRU-STOPS to insure all of these braking extras:



Lower Service Requirements

TRU-STOPS are mounted directly on the drive shaft. Their simplicity of design and accessibility greatly reduce maintenance requirements. Relining or adjustment is a simple job for any mechanic with ordinary tools. It is not necessary to drop the drive shaft.

Longer Lining Life

The terrific heat generated in braking cuts lining life. As illustrated above, TRU-STOPS' special ventilated design quickly dissipates this heat. Most of the disc is exposed to the air even during braking. And a cooling jet of air circulates through the disc, prolongs lining life.

Real Emergency Braking

TRU-STOPS are real emergency brakes. They serve as auxiliary brakes, assisting service brakes on down-grades if required. And they can bring the vehicle to a smooth, quick stop.

Smooth, Positive Stops

TRU-STOPS prevent accidents by insuring quick, positive stops in emergency situations.

Positive Parking Brakes

TRU-STOPS hold safely on steep grades—prevent "parking brake" accidents.

Specify TRU-STOPS for factory installation on your next vehicle.

For full details on TRU-STOPS write for booklet

ACCO



**Automotive and Aircraft Division
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601 Stephenson Bldg., Detroit 2
2216 South Garfield Ave., Los Angeles 22 • Bridgeport 2, Conn.

**TRU-STOP
Emergency
Brakes**

From Accident Studies . . .

Continued from Page 119

dent rates. In states with appreciably below-average accident rates, it is reasonable to believe that the favorable results have come from the efforts of vehicle administrators and highway safety officials. Although it is difficult to single out specific features resulting in low accident rates, it has been noted that states which require a periodical vehicle inspection are usually the same ones which emphasize other highway safety measures.

At present there is a trend toward using demerit systems in regulating drivers. These systems involve a series of warnings and corrective interviews specifically designed to clarify driver attitudes and foster safer attitudes and practices under the implicit threat of the loss of the privilege to drive.

Summary

In brief, if the nation's high accident rate is to be reduced, these things are necessary: it must be recognized that most accidents have more than one cause, control attempts should be based on the inter-relationship of the driver, his vehicle, and the environment; attempts should be made to establish the basic physical, physiological and psychological characteristics of the driver; these facts should then be associated with information about the vehicle under given environmental conditions and at specific times and places; the combined information can then contribute toward better understanding and control of accidents.

Factual information of this type can be discovered only by carefully controlled experimental studies, epidemiological surveys and statistical analysis. A dynamic and continuous safety program can produce positive results only by the constant application of the fundamental principles resulting from such studies.

END

Please Resume Reading Page 70

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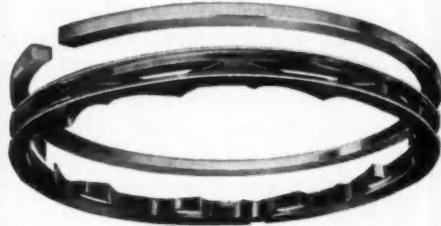
est, 1955

Autocar ...like many

other leading truck manufacturers

selects and distributes...for

authorized replacement service...



Perfect Circle

2 in 1 chrome piston rings...the

standard of comparison!



Tailored Forms Cut Time in Shop

Continued from Page 71

required the regular shop or job ticket is used. Requests for additional work usually come from two sources . . . the defect card reported either by driver or daily inspector, or the major inspection record. If the job is minor it is immediate-

ly cleared by the shop foreman and necessary work completed.

Component History

But if it's a major job, the request goes back to Bessette for a check with the master records. One

of them, an overhaul record by individual bus numbers, gives the case history of 26 major components, from complete engines to brake relays.

Another gives a special history on brake linings, showing size, drum measurements, and "brake doctor" history on each of the four wheels. Still another, labeled "unit history," tells the story on major components themselves rather than by bus number and final sheet is kept on every major engine overhaul showing oversize and undersize dimensions and all details that may be pertinent.

From this battery of readily accessible data it is a quick and easy job to furnish the shop with the details it needs to do the job right.

Here's the Record

Our operating record seems to bear out the fact that we are on the right track. In the intercity system we are averaging 84,861 miles between road failures, our regularly assigned coaches average 26 days out of every month on the road with top mileage on the intercity hauls running close to 14,000 miles a month per coach.

On the GM diesels we are running around 150,000 miles on injectors, 235,224 miles on heads and 242,269 miles between major overhauls.

While the shop itself is not what might be called photogenic (it's housed, like so many city properties, in a converted trolley barn), it is well equipped to handle every job that the normal big-city operation would cover.

Our parts department is unusually complete since our remote location dictates the necessity of close to \$100,000 of stock. It is located in the basement, feeds directly to the unit overhaul and machine shops on the main floor and the small parts overhaul department on the balcony by means of small electric elevator.

And we have one big ace in the hole. Vermont people are nice people, able and hard working. Drivers and mechanics both can be counted on to do their jobs well.

END

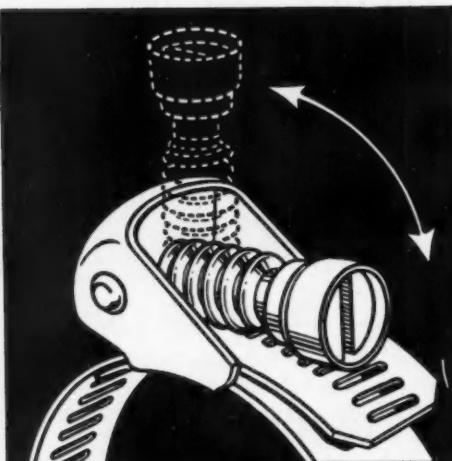
Please Resume Reading Page 72

COMMERCIAL CAR JOURNAL, August, 1955

Positive Grip in Seconds!

Snaplock

SWIVEL ACTION HOSE CLAMP



Push band through housing to a snug fit.



Press down swivel screw and tighten.

CLAMP IS LOCKED—GUARANTEED TO STAY LOCKED!

the pacesetter in hose clamps since 1913

ideal
Corporation
BROOKLYN 7 N.Y.

A New PM Tool for Fleets



SAVE Time, Money, Oil and
Engines with the Shell
ADC* Oilprint Analysis

Now—operators can test crankcase oil in the short time allotted for re-fueling and oil level checks. The Shell ADC Oilprint Analysis gives a practical and accurate oil evaluation in minutes.

ADC Oilprint Analysis means big savings when used in your preventive maintenance program . . . gives valuable information on engine and oil conditions. It answers the question "When do I change my oil?" thus eliminating the draining of usable oil and the risk of using oils loaded with contaminants.

See for yourself how the new Shell ADC Oilprint Analysis can save you real money in preventive maintenance.

*Trademark

*Let us demonstrate how you
can use this Service for Your Fleet*



SHELL OIL COMPANY

50 WEST 50TH STREET, NEW YORK 20, NEW YORK
100 BUSH STREET, SAN FRANCISCO 6, CALIFORNIA



Don't Monkey with the Frame

Continued from Page 96

operators to seek his advice as to the way all of these bodies and special attachments are applied. In particular, the vehicle producer wants to be sure that the installation of anything attached to the frame does not mutilate the frame or cross-members in any way.

The location of the pivot point on the fifth wheel is particularly critical since it can affect weight distribution adversely and, under certain conditions, may introduce serious additional torsional stresses not contemplated in the original design.

The chassis frame is the backbone of the vehicle. It takes the burden of load-carrying and must be able to resist all shock incident to the operation of the vehicle under all conditions. Its durability can be seriously affected by the introduction of added torsional loading or overstressing of critical sections because of the upsetting of design load distribution along the side rails.

For Longest Life

As a load-carrying member, the chassis frame must be intact as designed. It will not tolerate cutouts or drilling in stressed sections. It is for this reason that the vehicle manufacturer insists upon reviewing the mounting of special equipment or special bodies.

Finally, it may be emphasized that the chassis frame recommended by the manufacturer can be relied upon to do any job the truck builder approves, providing the fleet operator carries out his recommendations as to the mounting of bodies and fifth wheels. Provided, also, that load limitations are not materially exceeded.

It may be said then that the formula for trouble-free operation is relatively simple. It consists of close cooperation with the manufacturer in the selection of the basic chassis for a given operation; and the application of ground rules for the installation of bodies and fifth wheels.

END

Please Resume Reading Page 98

EXACT PRINTED RECORDS mean low cost inventory and cost control



BENNETT Model 789 Fleetmeter automatically keeps gas records

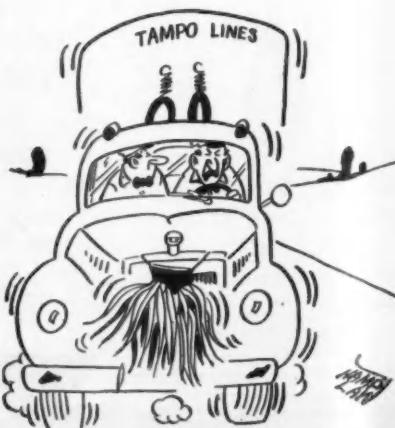
Built around the famed Bennett pump with its low maintenance cost and simple, trouble-free design, the Bennett Fleetmeter is the most economical method of handling fuel not intended for resale. Fleet garages, boat docks, bus terminals, farms... everywhere inventory control and unit operating cost systems are wanted...there's a spot for a Bennett Fleetmeter.

Ask your John Wood representative about the two basic models—Model 789 that automatically prints a receipt, keeps a running record of total gallons dispensed and eliminates errors, and Model 788 with high visibility index and concealed totalizer.

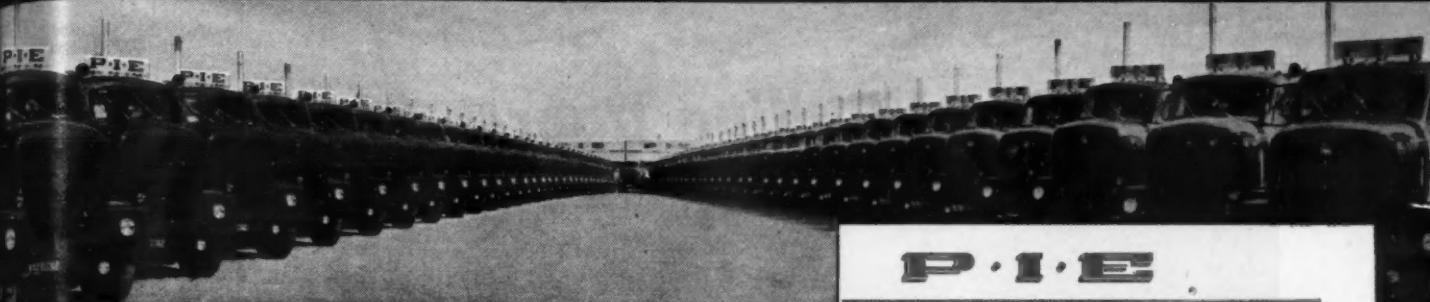
JOHN WOOD COMPANY



Bennett Pump Division
Muskegon, Michigan
In Canada: Toronto • Montreal
Winnipeg • Vancouver



"Smart alec shop foreman. I asked him to do something about the shimmy."



"P.I.E. records show Gates "T" belts cost less per mile"

For a sure way to cut your per-mile cost for maintenance, read the statement above recording P.I.E. experience with the Gates "T" Belt.

P.I.E. records show that the Gates "T" Belt—the belt specially engineered for trucks and buses—definitely costs less per mile than other belts they have used.

From coast to coast, maintenance men and others who keep cost records have had the same experience—the tough Gates "T" Belt lasts far more miles; virtually eliminates road calls due to belt failure. That means net operating time is kept up, costs are kept down.

Make this test:

Through your nearby Gates Jobber have a Gates Belt Specialist deliver a trial order of belts for some of your equipment. Match the performance, the service life and the per-mile cost of these belts against any you have ever used. The Gates Rubber Co., Denver, Colorado —*The World's Largest Maker of V-Belts.*



The mark of specialized research

P·I·E

PACIFIC INTERMOUNTAIN EXPRESS

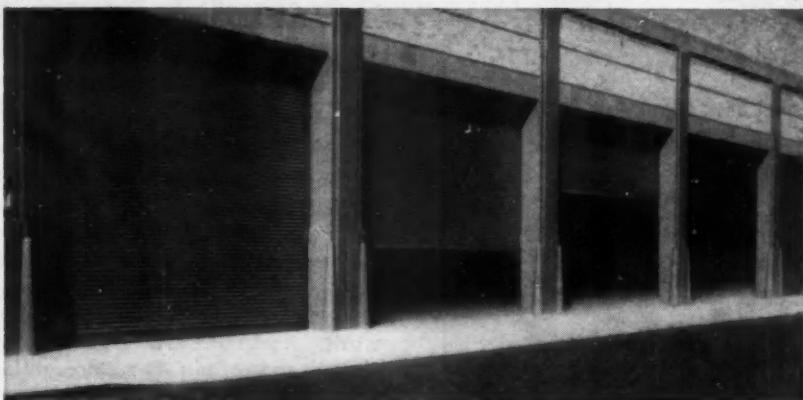
P.I.E. has used Gates "T" belts for 15 years and P.I.E. records show Gates "T" Belts cost less per mile than other belts used. Their longer life pays off, too, in fewer road calls. P.I.E. has practically eliminated road delays due to belt failure since putting "T" belts to work. And, P.I.E.'s highway fleet travels more than 40 million miles a year... provides dependable motor freight service between Los Angeles, San Francisco, and Chicago, St. Louis, Kansas City.



GATES TRUCK & BUS V-BELTS

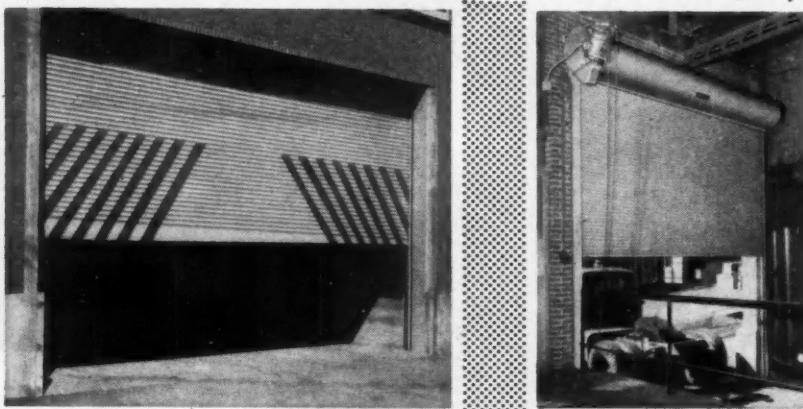
Kinnear Steel Rolling Doors

(made by the originators of the famous interlocking steel-slat door)



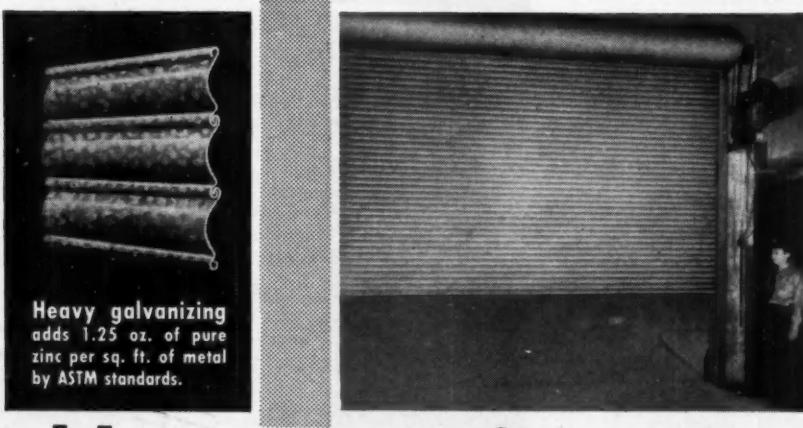
give you highest efficiency,

(they open straight up, coil overhead, waste no floor or wall space)



extra all-metal protection,

(their rugged steel construction resists fire, wind, theft, vandalism)



Heavy galvanizing adds 1.25 oz. of pure zinc per sq. ft. of metal by ASTM standards.

and lower operating costs

(delivering up to 20, 30, and 40 years of continuous daily service with little or no repair costs, as proved by many case records in Kinnear's files.)

Kinnear Rolling Doors are built any size, for old or new buildings, with manual, chain, crank or motor operation. Write for complete information.)

THE KINNEAR MFG. CO.

FACTORIES:

2100-20 Fields Avenue, Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in All Principal Cities

KINNEAR
ROLLING DOORS



Fleet Training Courses

HERE is 1955's calendar of fleet training courses. For complete addresses to write to for full information about the courses, see COMMERCIAL CAR JOURNAL'S November, 1954, issue, page 237.

Fleet Supervisor Courses

- Aug. 22-26—University of Louisville (Kentucky).
- Sept. 12-16 — Pennsylvania State University.
- Sept. 19-23 — Purdue University (Indiana).
- Oct. 31-Nov. 4—University of Minnesota.
- Nov. 14-18—University of Michigan.
- Nov. 28-Dec. 2—University of Akron (Ohio).

Driver Training

North Carolina State College (one month long courses starting Sept. 3, Oct. 3, Oct. 31, Nov. 28).

Terminal Management

- Oct. 11-13 — Pennsylvania State University.
- Dec. 7-9—University of Tennessee.

Top Management Conferences

- Sept. 29-30 — Pennsylvania State University.

Fleet Maintenance Courses

- Sept. 19-23 — Rutgers University (New Jersey).
- Sept. 26-30 — University of Oklahoma.
- Oct. 3-7—University of Alabama.
- Oct. 10-14—Tulane University.
- Nov. 1-3—Oregon State College.
- Nov. 7-9—Montana Motor Transport Assn. (Billings).



"Watch this next question—it's sneaky.
Can you drive?"

TRUE

at L

Revo

ARA
MIR
TRU

Never before has a product been so popular in a mere matter of time. It proved to the world that Armstrong tire and rubber products advanced beyond expectation.

Our sincere apologies for any difficulty in securing our products because of the great demand for them. Armstrong dealers will do their best to meet your needs.

Won't you please

ARA
Rhine

MAKERS OF

COMMERCIAL C

TRUCKERS New First Choice for Top Performance at Lowest Cost!

Revolutionary New **ARMSTRONG** **MIRACLE S-D** **TRUCK TIRES**

Never before has any new truck tire proved so popular in so short a time! Yes, in a mere matter of months, truckers have proved to themselves that this new Armstrong tire has so many advanced product advantages that it tops every expectation.

Our sincere apologies to those who found difficulty in securing the new Miracle S-D because of the great demand. Your Armstrong dealer can now supply you. Won't you please call again?



ARMSTRONG **Rhino-Flex MIRACLE S-D TRUCK TIRES**

MAKERS OF ARMSTRONG PURE FOAM FOR FURNITURE AND BEDDING, HOME OFFICE WEST HAVEN, CONNECTICUT

COMMERCIAL CAR JOURNAL, August, 1955

127



Armstrong's Exclusive
"Intra-Tread Bumpers"

Armstrong's Exclusive
"Interlocking
Tread Design"

Provide greatest stability in history. Trucks equipped with new Armstrong "Miracle S-D" Tires can be put up to the speed limit and kept rolling there. Tight delivery schedules are maintained!

Armstrong's Exclusive
"Uni-Cushion Contour"

Armstrong's Exclusive
"Stone Ejector Grooves"

This broad-shouldered construction puts more rubber on the road. Gives longer, more even wear. Result: Lower insurance and replacement costs for perishable loads get greater protection.

Gives world's greatest bruise damage protection. With "Miracle S-D" the trucker can forget about stone holding, groove cutting, stone bruises...the cause of many premature tire failures.

Trailer Pool Offers Flexible Service

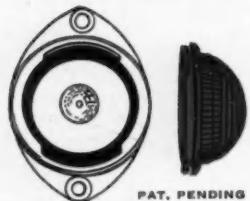
Continued from Page 94

be considered in weighing the costs of Pool trailers against company owned equipment. Another advantage is the release of capital now being tied up in each individual fleet. Trailer interchange is simplified due to standardization.

Freight now loaded for any part of the country may be loaded on a direct-through trailer and need not be handled at some intermediate point. Lower maintenance costs and reduced tire costs are given as other advantages of this mutual pact.

for greater safety

easy bulb change in new clearance-marker lites



PAT. PENDING

Change the bulb in a jiffy in both the KD 524 Clearance-Marker Lite and KD 524-1 Armored Lite. Remove lens by quarter turn to left . . . replace bulb . . . insert lens . . . turn right to lock. No screws or retaining rings! No tools needed. A marked improvement over conventional lites.

improvement you expect from K-D

Again K-D's engineers have pioneered convenience and labor saving for the truck and bus industry . . . two lites you don't have to disassemble to mount. Waterproof construction by means of rubber lens gasket and connector grommet. A scientifically designed lens to give the most light properly distributed from a 3 cp bulb.



KD 524-1

armored lite

KD 524-1 has extra heavy armored plate shaped to protect lens and bulb . . . especially designed to ward off obstacles. Width 2½" . . . length 3½" . . . height 1¾". Mounting holes on 2½" centers.



KD 524

clearance-marker lite

KD 524 enhances appearance of any vehicle. Over-all height 1⅛" . . . length 3⅛". Mounting holes on 2½" centers.

The Complete Line These representative lites are another part of K-D's complete single-source-service of automotive Saftee Products.

K-D LAMP COMPANY

1910 ELM STREET • CINCINNATI 10, OHIO
WAREHOUSES: BOSTON - CHICAGO - LOS ANGELES
NEW YORK - PHILADELPHIA - SEATTLE - TORONTO



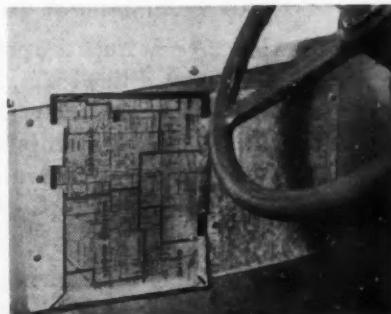
The Pool handles all maintenance of trailers. PM records are carried on each unit and inspection and service is performed every 90 days. When equipment is out longer than this period, a follow up is made through the trailer receipt form used for billing. Maintenance in such cases is performed by outside shops. Tires are provided by the Pool. All greasing and airing is done with mobile units and maintenance includes off-line equipment. At the present time fully 30 per cent of the airing and greasing performed by the Pool is done on "foreign" equipment.

Advantages to the shipper are even as tangible. The shipper is assured that his freight is handled in modern equipment designed for his requirements. Road time is reduced because servicing is systematized and interchange is simplified.

Along this line it might be mentioned that already 50 per cent of the equipment originally pooled has

(TURN TO PAGE 130, PLEASE)

Anodized Route Maps



Good Humor trucks in Cleveland, Ohio, operate in a specific territory and along a designated route. These routes are laid out on a sectional map given to each driver before he checks out in the morning. Paper maps became easily mutilated. Everything took its toll on the maps, rain, wind, dust and handling. Replacement of maps became a costly item. Big item in cost was the time the district supervisors lost in cutting and re-marking new maps. Solution to the map problem came from the use of Metalphoto plates. Metalphoto maps are printed on a sheet of pre-sensitized anodized aluminum. The print is prepared from a standard negative with standard photographic procedure. In the Metalphoto process, however, the print is not a surface print, but gets deep into the anodized layer of the aluminum plate so that it becomes impervious to weather, handling, acids, abrasion, scratching and the normal wear. Sections of the city map were photographed and printed on the Metalphoto plates of 8 x 10 in.

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COMMERCIAL CAR JOURNAL, August, 1955



A. & J. CARTAGE COMPANY Reduces Maintenance Costs with Phillips 66 HDS Motor Oil

Tony Jalovec, A. & J. Cartage Company

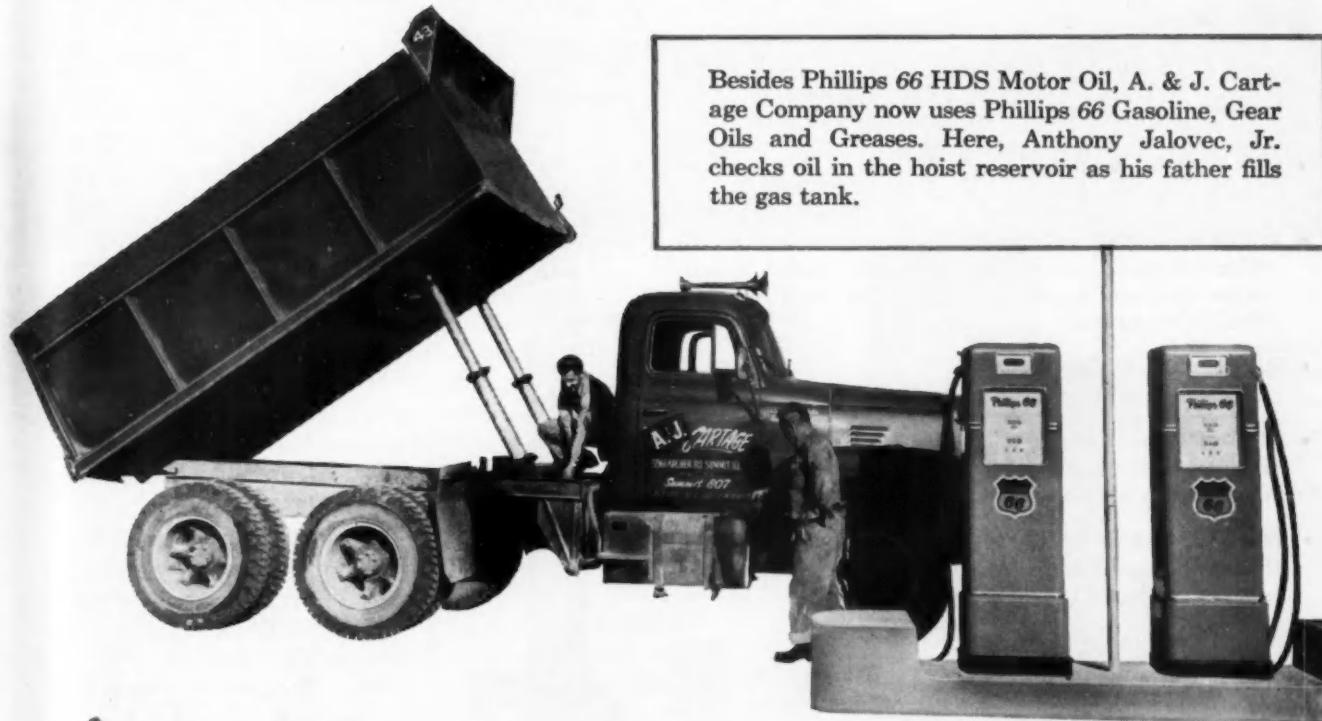
TONY JALOVEC operates the A. & J. Cartage Company in Summit, Illinois. Rock, asphalt, dirt, sand—all are hauled by his 15 International L190 late model dump trucks. Each truck's powerful 406 engine pulls a 13-ton pay load. Each truck operates six days a week, and covers 40,000 miles a year.

Before using Phillips 66 HDS Motor Oil, Mr. Jalovec had an engine failure. Says he: "The oil was more like mud than oil. The pan was loaded with sludge. We had to scrape 'gunk' off every part. One look at that dirty engine and I decided to switch

oils and do it quickly. That's what I did."

Mr. Jalovec started using Phillips 66 HDS Motor Oil in all A. & J. trucks. With Phillips 66 HDS, his maintenance record showed a big improvement. Trucks gave efficient operation without overhaul right through trade-in time—three years without any heavy repair cost!

Tony Jalovec's satisfaction with Phillips 66 Heavy Duty Motor Oils is typical of reports from fleet operators in all parts of the country. No matter what kind of fleet you operate, you can enjoy the same satisfactory service.



Besides Phillips 66 HDS Motor Oil, A. & J. Cartage Company now uses Phillips 66 Gasoline, Gear Oils and Greases. Here, Anthony Jalovec, Jr. checks oil in the hoist reservoir as his father fills the gas tank.

Test Phillips 66 Heavy Duty Motor Oils against the oil you are now using. A Phillips 66 Lubrication Engineer will be glad to help you set up a test. Write to: Sales Department, Phillips Petroleum Company, Bartlesville, Oklahoma.

It's Performance That Counts!



PHILLIPS 66 HEAVY DUTY MOTOR OILS

Trailer Pool Offers . . .

Continued from Page 128

been replaced with hi-volume units. Within a few months all other trailers in the pool will be replaced with the best designs available. The Pool maintains its own design and engineering staff to see that equipment is suited to fleet requirements. Reefers are completed in the Pool's own fabrication plants.

The Pool is self-insured to \$10,000 so that equipment itself is protected. A liability policy of \$250,000 is also carried. A licensing fee of \$10 is provided though the operator must obtain any state permits he may require at his own expense.

The leasee is responsible for the condition of his equipment which is checked upon its return, that is until he turns back the receipt form. Users may transfer equipment to other carriers in interchange and

are billed for its daily use as before. They may, however, transfer the trailer to the other fleet after obtaining permission from the Pool, and in this case the charge is transferred to the interchange fleet.

New Emphasis on Costs

Fleets report that a little recognized but important advantage of utilizing trailers in group plan of this type is the new emphasis on costs. Few operators, it is stated, actually know their trailer costs. Too much equipment is often purchased with the view of handling peak periods, while trailers stand idle a great percentage of the time. Employees themselves often hoard equipment to take care of emergencies with little regard for the actual overall expense of tying up road trailers. Pooling of equipment in this way thus provides for a flexibility and efficiency of operation that cannot be had with company owned units. These intangibles become tangible only when the fleet finds that it can carry the same volume of freight with less rolling stock—as has been the case with Pool members.

The Pool is described as one answer to motor carriers who desire to retain corporate entity, while at the same time enjoying the advantages of bigness and a group approach to industry problems. Pooling of trailers in this way may eliminate the need for merger or consolidation for fleets who see trouble ahead.

END

Please Resume Reading Page 96

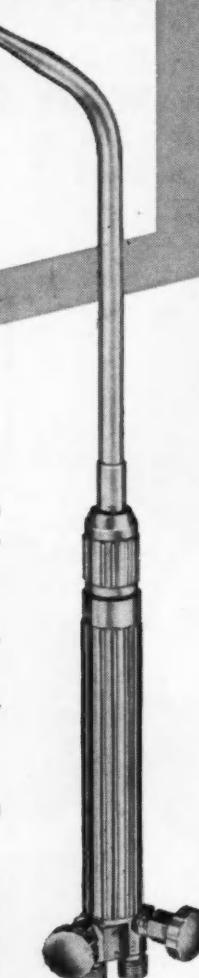
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AU
AUTO

Here's why **PREST-O-WELD BLOWPIPES** Trade-Mark

cost so little to use
and maintain



• SELF-SEATING VALVES

Reseat scored valves when turned tight.

• RUGGED HANDLE ASSEMBLY

Wear-resistant bronze front body—heavy-walled seamless tubes—pressure forged valve body; all built for long, trouble-free service.

• SLIP-FIT "O" RINGS

Eliminate critical metal-to-metal gas seals. Easy to replace.

• MIXER IN EACH HEAD

Delivers perfect gas mixture for easiest and best work. New design resists backfires, eliminates burnouts.

• SWAGED, PURE COPPER TIPS

Streamlined gas flow and exceptionally stable flames. Heads snap in and out of handle. No wrench needed.

The PREST-O-WELD W-122 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, New York.

The terms "Prest-O-Weld" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

GET IT FROM YOUR **LINDE** JOBBER



"... I caressed her controls tenderly
... she resisted my advances . . ."

"We specify AUSCO . . . for rough service"



. . . says Vic Street, Harry Goelitz, Jr. Co., Oak Park, Illinois. Ausco Hydraulic Axle Jacks receive tough and varied service handling the many types of heavy duty trucks operated by the Goelitz Company.

Here's Mr. Street's enthusiastic report:

" . . . We can't afford to take chances on poor jack performance, that's why we specify Ausco.

"We give our jacks the roughest kind of service and have found Ausco jacks to be dependable and safe."



Ausco Hydraulic Axle Jacks are good . . . they have to be to bring forth such enthusiastic reports from heavy service users!

They're made TOUGH . . . of exclusive non-porous castings—guaranteed leakproof and unbreakable, for continuous, dependable service!

They're EASY-TO-OPERATE . . . straight-line oil flow lifts fast—keeps hydraulic system from clogging and jamming, for fast, safe service wherever and whenever needed.

Call your AUSCO JOBBER . . . see Ausco's complete line of Hydraulic and Mechanical Jacks. You can't go wrong when you "specify Ausco . . . for rough service."



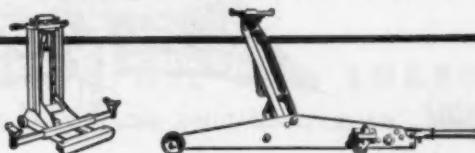
Ausco Hydraulic Axle Jacks are available in 20, 12, 8, 5, 3 and 1½-ton models Standard Range and 12, 8, 5 and 3-ton Hi-Range models.

AUSCO

HYDRAULIC AXLE JACKS

AUTO SPECIALTIES MFG. CO., INC., Dept. CC-8, Saint Joseph, Mich. Other plants in Benton Harbor and Hartford, Michigan and Windsor, Ontario, Canada

For greater service profits, let Ausco Hydraulic Service Jacks speed shop work! There are 1½, 2 and 4-ton models, and the new 1½-ton Hydraulic One-End Lift ready to do-the-job-right for you.



Incentive Plan Slashes Road Failures

Continued from Page 73

Here's how points are accumulated: Merits points are awarded to each driver, at the rate of 1/5 point per mile, for total mileage accumulated each month without a road failure, as shown on the accompanying chart. Mechanics re-

ceive merits for safe work as shown, for safety suggestions, for ideas suggested for improving the quality or the speed of their work. Every individual is eligible for receiving merits for meritorious service—that is for outstanding work

or for little extras that he may perform from time to time.

Demerits Too

On the demerit side men may be fined for lost time injuries, unsafe working practices, for a reprimand made necessary by the quality of their work; or individuals may be fined for a fleet accident which can be traced directly to their work. An accident caused by failure of the maintenance department is considered a road failure and may cause each individual in the responsible shop to lose as many as 250 merit points.

Results of this point system have been phenomenal. Where a man is charged with responsibility such as in inspection, fueling, repair, check out of equipment, he recognizes that he is supporting his team, and that any defects charged to him will affect the total contest score. It has made men check up on each other's work to be sure that it comes up to standard. And in some cases the men themselves have reported poor practices of others (private) so that demerits charged to their shop can be held to a minimum.

When a controversy arises from the issuing of merits or demerits, a committee is formed including three men from top management, the shop manager, the individual complainant, and any other interested party who can contribute to a just decision. Whenever a driver reports the cause of an accident to be mechanical failure, our committee then decides where the responsibility lies. It may be the driver, the mechanic who performed the last repair or inspection, or it may be the entire shop.

If it is judged that the maintenance department failed, then each employee in that shop receives a 250 point demerit. When a road failure occurs and the driver alleges maintenance failure or our shop superintendent discovers evidence of faulty workmanship, if our committee, after weighing the facts, can pin-point the failure to an individual, that man is then demerited from 100 to 300 points, depending upon the type and extent of the failure.

(TURN TO PAGE 134, PLEASE)

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Just as a life millions of ca Oil to prote by heat, fri

WOLF'S HEA it's refined t oil—nature'



So easy to attach! Just push the housing to desired position on stainless steel band, snugly around hose. Threads of the worm screw drop into slots automatically. Now tighten worm screw and JET is on to stay. Easy removal: loosen worm screw, push the button and lift screwdriver head at same time—clamp springs open!

Like all Aero-Seals, JET stays put till you remove it. There's a complete choice of sizes, too.

Profits come from TURNOVER, not discounts, and new JET means business. See your jobber.



BREEZE

CORPORATIONS, INC.

700 Liberty Avenue, Union, New Jersey



PROTECTION

...where it's needed

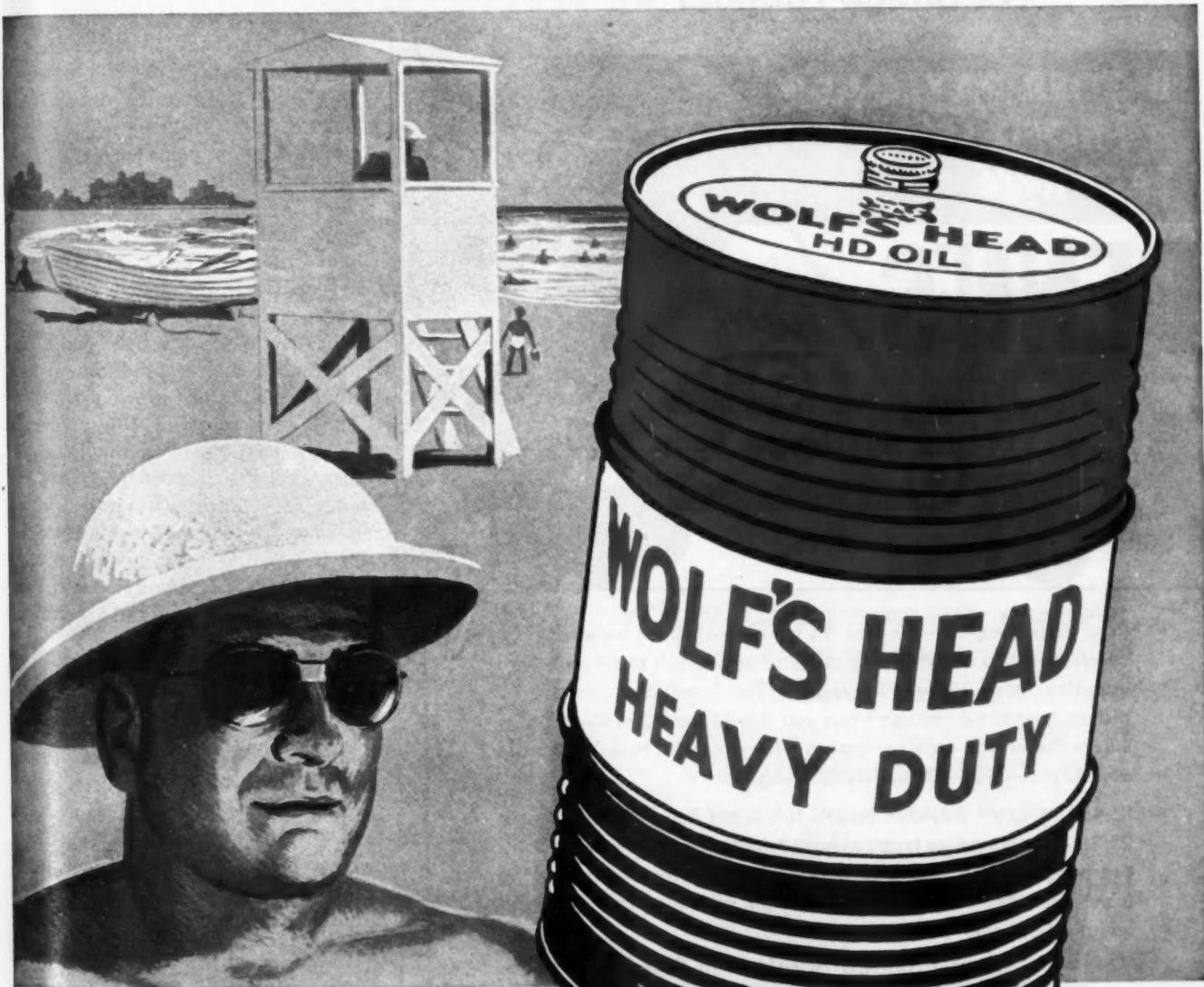
Just as a lifeguard protects himself from summer sun, millions of car and truck owners rely on WOLF'S HEAD Oil to protect engines against unnecessary damage by heat, friction and motor contaminants.

WOLF'S HEAD is rich, tough and long-lasting because it's refined three extra steps from Pennsylvania crude oil—nature's finest crude. It won't thin out or burn

away. And WOLF'S HEAD—100% Pure Pennsylvania—is scientifically fortified. *It cleans as it lubricates...* keeps engines free from sludge and harmful deposits.

For vehicles in severe heavy duty service, WOLF'S HEAD Heavy Duty Oil provides exceptional film strength, high detergency, and maximum protection against sludge, rust and corrosive wear. And it reduces oil consumption to a minimum.

Ask about the free WOLF'S HEAD Laboratory Control Plan. It keeps your trucks running with less repairs.



Free!

"RULES OF THE ROAD" Folder contains complete driving information, traffic rules, speed laws for all states. Give them to your drivers.

WOLF'S HEAD OIL REFINING CO., Inc.
OIL CITY, PA.
New York Office: Glendale 27, N. Y.



WOLF'S HEAD MOTOR OIL AND LUBES

100% Pure Pennsylvania—Scientifically Fortified  Member, Penna. Grade Crude Oil Association

Incentive Plan . . .

Continued from Page 132

How It Works

As an example, a recent failure involved front wheel bearings. It was found that the bearings were packed and adjusted 1200 miles prior to the failure. There was no evidence of a cotter key having been installed in the adjusting nut.

NAME		CLASSIFICATION				PHONE		BRANCH EMPLOYMENT DATE							
ADDRESS															
CODE	MFB	-Miles Per Breakdown	CODE	LTI	-Loss Time Injuries										
Merits	SBWB	-Special Bonus for no Breakdowns	DEMERITS	ULP	-Unsafe Work Practices										
	SMFB	-Each Employee in Shop Posting the		AMP	-Fleet Accident Directly Caused										
		Highest MFB for Month		by Maintenance Failures											
	BI	-No Lost Time Injury (Each)		REP	-Reprimand										
	ESS	-Employee Safety Suggestions													
	SM	-Special Mention for Meritorious Service													
DATE	MFB	SBWB	SMFB	BI	ESS	SM	LTI	ULP	AMP	REP				TOTAL MONTHLY POINTS	TOTAL ACCUMULATE POINTS
SEPT.															
OCT.															
NOV.															
DEC.															
JAN.															

The mechanic was adjudged guilty in this case and fined 200 points.

Tally sheet used by Boutell for individual merit and demerit records

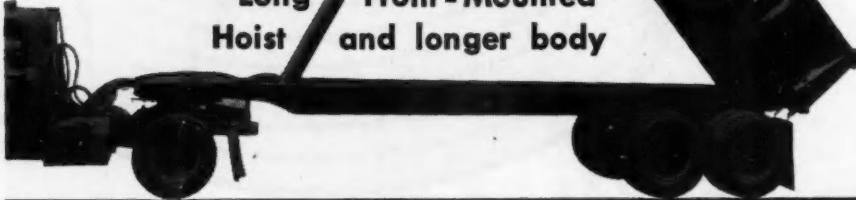
For Bridge Formula States . . .

**BIGGER PAYLOADS
A PROFITABLE
FACT with**

PENN'S

new

Long Front-Mounted
Hoist and longer body



Penn does it again—this time it's a new long front mounted hoist which permits a 50° dumping angle of any length body up to and including those 25 feet in length. This installation provides a distinct weight advantage when you are operating in those states where the bridge formula applies—for example, New York State 65,000 lbs. gross—Ohio, 70,000 lbs. gross.

For all its extra payload length, this latest Penn development is 95% safer than other types of hoist installations. Dangerous body overhang is eliminated since the load is lifted from the front. The front mount feature places more weight on the tractor axle and less on the trailer chassis axle.

Boost Payload Safely with Penn!

Your inquiries are welcome

**Truck Body Specialists with 22 years
experience in the use of telescopic hoists**

**PENN BODY DIVISION HOCKENSMITH
CORPORATION**

PENN, PA. Call: Jeannette, Pa., LAFayette 3-5401 . . . Pittsburgh, Electric 1-1242

You may be interested in learning why we charge some failures to drivers. Why do we charge the driver for a failure due to an engine miss, as we did recently? The reasoning is this. We feel that a man continuously driving a vehicle should be able to detect evidence of most failures before they happen and of course report such evidence to the repair department. The driver in this case should have recognized that condition at a point where he could have had it corrected. He had had a chance to get a spark plug changed at a point further down the road, precluding a complete breakdown. But our investigation showed that he didn't. He received 100 demerits for his negligence. Now in some cases this would be charged to the shop; in certain cases it would be charged to the man who checked out the vehicles; or, as in the case of the preceding example, it might have been the individual mechanic.

Review the Case

We recognize that we often get on thin ice in some of our decisions. You cannot always determine responsibility correctly even though you may think you have all of the evidence. We don't worry about this, however. In fact we cultivate objections by those who feel they have been unjustly charged. Thus, when a driver or a mechanic takes his "beef" through proper channels, we are glad to review and re-evaluate in the light of any new evidence he can provide. And we are always lenient. If the driver, for instance, can prove that the shop was responsible, the demerit is re-

(TURN TO PAGE 138, PLEASE)

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Who profits when you buy CP air tools?

Zip it cuts! Look how easily and evenly the CP Zip Gun cuts through this truck body. It not only cuts sheet metal, spot welds, pins and rivets; but it also drives chisels, punches; does riveting, chipping and scaling; and scrapes undercoating, paint, dirt.

CP Air Impact Wrench with its CONTROLLABLE POWER feature has plenty of reserve power for removing those tough, rusted nuts. Then quick-as-a-wink it can be set to run nuts and bolts to predetermined, uniform tightness.

Just look at this CP-790 Air Impact Wrench in action! It has all the power and control needed to turn those huge U-bolts to just-the-right tightness.

Other CP Air Impact Wrenches are available in $\frac{1}{2}$ ", $\frac{3}{4}$ " and 1" square drive capacity models. They're furnished with attachable angle heads for close quarter jobs.

YOU PROFIT... CP Air Impact

Wrenches, Zip Guns, Bead Breakers and Pneu-draulic Truck Jacks not only speed up maintenance, repair and body work in your shop but they keep vehicles on the road longer . . . increase your pay load mileage.

YOUR MECHANICS PROFIT...

they can do spring maintenance, make wheel changes and handle other heavy work with less fatigue . . . and if they're paid piece rates they can increase their take home pay.

YOUR CUSTOMERS PROFIT...

the 75% of nut turning time saved by CP Air Impact Wrenches . . . the speed of the Zip Gun on body repair work . . . the time-saving qualities of the CP Pneu-draulic Truck Jack and the Bead Breaker all add up to make a quick turnover in the shop and insure fast, high quality service for customers.



Chicago Pneumatic

8 East 44th Street, New York 17, N. Y.

AIR AND ELECTRIC IMPACT WRENCHES • PNEU-DRAULIC TRUCK JACKS AND PUMPS • ZIP-GUNS • BEAD BREAKERS

Incentive Plan . . .

Continued from Page 134

moved. If the mechanic can prove that the driver could have averted the failure, the rating is changed—or removed entirely. It becomes a matter of those responsible to admit the deficiency—or else we cancel out the fine.

This is not lack of decisiveness on our part—simply strategy. We

want good will—but we also want every man to THINK about conditions that raise operating costs. When problems are kicked around in this way, everybody gets into the act and as a result becomes more conscious of helping to improve the situation.

Wives, Too

Here's an example which will help to show the effectiveness of this program. Wives are kept in-

formed of the progress of their husbands with the monthly box score on the award system. The men receive a tally of their standing by letter so that the wives become active partners in the competition. Recently we received a letter from a distraught spouse charging us with providing her husband with a "worn out truck" so that he had received an excessive amount of demerits for road failures "which were not his fault."

The wife had taken on this responsibility without her husband's knowledge, cautioning us not to mention it to him. Her "complaint" was sent to the president who forwarded it down through every phase of management connected with the program. In following up the complaint we amassed a whole file of correspondence and records on the driver. His history was reviewed and we found that his equipment was in satisfactory condition — breakdowns being charged to his driving practices. Eventually he was called in and the situation was cleared up—all without his wife's knowledge of what a complex situation she had originated. Result to date is a better driver. But after all, that's what we are attempting to get.

Intangible Benefits

We have found that this contest produces some intangibles that cannot at this point be measured in direct results. For example, the level of inspections has improved materially since the origin of this program. Men take more active interest in seeing that the work they are charged with is performed to standard. They will not release work that has not been inspected to the best of their ability.

Discussions often arise between individual drivers and mechanics after a road failure at which time they try to advise one another of ways to prevent a recurrence of such failures. And finally, we are saving several thousand dollars each year by way of equipment manufacturer adjustments. Manufacturers when approached with the evidence accumulated by these

(TURN TO PAGE 140, PLEASE)

THREE GREAT LINES from ONE, dependable manufacturer

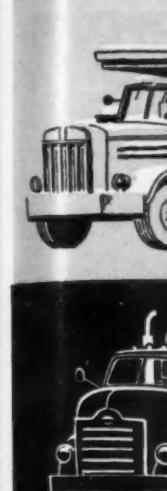
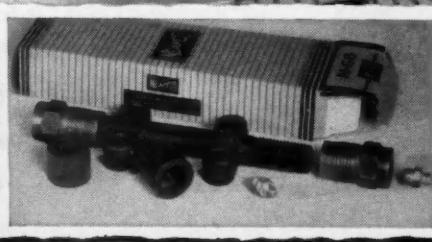
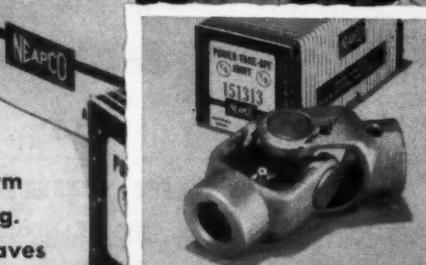
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JOINTS
CHASSIS
PARTS

Three great lines from ONE source—recognized by their standard of high quality, uniform packaging, simplified cataloging. One source procurement also saves freight, handling, bookkeeping ... and you get QUALITY ... all the way!

NEAPCO PRODUCTS INC.
POTTSSTOWN, PA.



QUALITY.... ALL THE WAY!



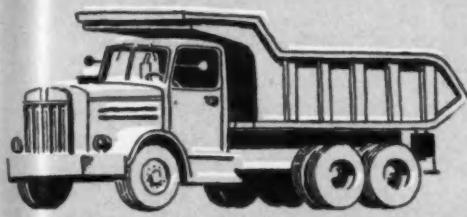
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2 make a team for Diesels!

A great Diesel team—Gulf Dieselect Fuel and Dieselube Motor Oil H.D.—assures you maximum performance and keeps your operating costs in line.



1. Gulf Dieselect Fuel

This exceptionally clean burning fuel helps prevent fouling of oil control rings and reduces ring sticking.

It is a straight run distillate (contains no cracked material) that does not form harmful deposits in tanks, filters, and injectors. It has high volatility, a high cetane number and low end point.

You can be sure of cleaner valves and minimum smoke with Gulf Dieselect Fuel because it burns so evenly and completely. Try it for a new kind of engine performance.

2. Gulf Dieselube Motor Oil H.D.

The Diesel lubricating oil that combines quality and economy—that delivers high mileage, yet is low in cost.

Gulf Dieselube Motor Oil H.D. is a heavy-duty type oil that not only provides effective lubrication, but has the right level of detergency to prevent harmful deposits on pistons, piston rings, and oil screens.

Let us prove that Gulf Dieselect and Gulf Dieselube Motor Oil H.D. can do a better combustion and engine lubrication job in your Diesel fleet. Contact your nearest Gulf office, or write on your letterhead to Gulf Oil Corporation, 1822 Gulf Building, Pittsburgh 30, Pa.

**Gulf Oil Corporation
Gulf Refining Company**

The finest petroleum products for all your needs



What's best size steam cleaner for your fleet? For this trucker, it's a Malsbary 250 HPC, used to clean dirty tank trailers and tractors before repair and painting. Malsbary users experience shows...

Work Load... Your Guide to Right Size Steam Cleaner

For Large Fleets and Tough, Steady Cleaning—Ruan Transport, big gas and oil hauler of Des Moines, Iowa, uses a Malsbary 250 HPC (high pressure combination) cleaner. It delivers up to 360 gallons per hour of cold water or hot solution with a 300-lb. impact that literally blasts away stubborn road oils, corrosive grease and caked mud. It cleans twice as fast as the largest steam vapor cleaners—4 to 10 times faster than most—has cleaned as many as 33 trailers in a 6-hour period. It also washes shop floors and walls; cleans parts, engines and wheels. Says Shop Superinten-

dent, Truman Baker, "It's best cleaner I've ever seen or heard of."

Same Malsbary 250 can be used for degassing and cleaning tank interiors, rinsing, de-icing and thawing.

For Lighter and Intermittent Cleaning take a tip from Crusty Pie Co., Washington, D.C. Its Malsbary 110 steam vapor cleaner easily keeps pie racks, wagons, engines, and bodies apple pie clean. This cleanliness is real sales builder.

For Parts and Light, In-Shop Cleaning try the small, new Malsbary 60. Its nozzle controlled, simple as a wrench to use. Only \$395.

See your Malsbary jobber NOW for the right size cleaner for your job...or write TODAY for literature on full Malsbary line.



Cleaning pie racks, encrusted with crumbs and pie juice, used to take half hour; Malsbary 110 does job in 3 to 5 minutes.



Incentive Plan . . .

Continued from Page 138

records, often make good on their equipment and in this way more than pay for the cost of running the program.

I cannot pass up a chance to emphasize here the importance of working with manufacturers along these lines. The truck maker wants to know when and where his equipment is not producing the miles he thought he had built into it. Many times he needs guidance from various operators in improving or changing design to conform to higher standards. Most manufacturers will work with individual fleets to modify equipment when a change is necessary. By far the best way of getting this information to them, however, is through the Steering Committee of the Equipment and Maintenance Council of ATA. I would like to urge all operators to participate in this activity, to provide problems for study by committees of this Council with the objective that of improving equipment for everyone.

Road Failure Contest

It is my feeling, too, that every fleet owner should accept his responsibility to the industry by getting into the Road Failure Contest sponsored by the E and M Council. This contest (CCJ, March, page 94) will provide valuable data that can be used by every operator in comparing figures and in setting a goal or a standard.

You can't actually know how you stand unless you have some means of determining what a bad record is. Data which will be available from hundreds of fleets when this information is in and tabulated will help everyone to check his own operation against the average and determine where he stands. Then and only then can you set about to determine how much maintenance is necessary, where that maintenance should be applied, and when that maintenance should be performed. It will be a valuable yardstick.

END

Please Resume Reading Page 74

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New! Schrader Vulcanizer simplifies patching and tire valve replacement

Vise type arm slides out of way—takes any size of tube—all sizes of valves.

Provides evenly distributed pressure when handle is turned down.

Does BOTH patches and valve replacement—interchangeable insert easily converts to large 29" flat plate for smooth, evenly-heated work.

Sturdy modern appearance to match your modern tools. Bolts for convenience to your work bench.

Edison Thermostat—steady, even heat for best cure—proved by tube manufacturers to be the best way.

Standard Passenger Tire Valves and Rubber Covered Truck Valves



Truck and Bus Convertible Tire Valves

NOW! Complete Schrader Tire Valve Replacement Service in your shop!

Conventional or tubeless . . . efficient tire maintenance is an important way to prevent costly downtime loss. To help you make your tube repair and valve replacement on your conventionally equipped vehicles easier and faster, get this new #3670 Electric Vulcanizer and top quality Schrader replacement valves.

To meet the growing tubeless valve changeover and replacements on your small trucks, Schrader has the new EZE-Mount and clamp-in Tubeless Tire Valves—and the tools you need to install them.

Whatever your tire pressure maintenance needs, let Schrader products help you do it better. Check with your Schrader Supplier for everything you need.

Simplify tubeless replacement



Use the new EZE-Mount rubber covered or the Clamp-in tubeless tire valve. Send for free tubeless tire valve data bulletin #A223.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
470 Vanderbilt Avenue, Brooklyn 38, N. Y.

FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Schrader®

ESTABLISHED IN 1844

Mobile Lube Units Speed Service

Continued from Page 75

service from components. If experience shows the increase is too great, the mileage figure is dropped back again. Extending maintenance and lubrication periods on an experimental basis has paid off by reducing costs and time on service and inspection as

well as in actual maintenance. Where a vehicle was once shopped 10 times for inspection (which includes lubrication) it may now, for example, come in only five times, with no detrimental effects.

"We are not trying to see how far we can run equipment," Ritter declares, "but rather how cheap. We aren't trying for 100 per cent life of units because that would only raise our cost per mile." Facts and figures are under constant scrutiny by Ritter and his six administrative assistants, all of whom worked up from mechanics.

Filter Changes

Data collected from the nine major and five secondary shops determined that heavy-duty oil should be used for all equipment, the same weight year 'round. SAE 20 is used in all diesels and 30 in gas trucks. Full-flow oil filters on all trucks are changed regularly: at 12,000 on diesel; on gas they are inspected at 2000-mile intervals and changed as needed, anywhere up to 6000 miles. Oil is analyzed in company labs.

Oil-bath air filters are serviced at 2000 on gas and 6000 on diesel. Because chips may be sucked in to cause damage, diesel air filters are watched especially closely.

Transmission and differential oils are changed at 24,000 miles. Front and rear wheel bearings are packed at the same time except on axles equipped with Mechanix oil seals, which are repacked when brakes are relined (75,000-150,000 miles). Levels in this type of seal are checked at 12,000 and 24,000 miles.

Inspection of Vehicles

Lubrication practice in the shops is to assign a job to a specific individual whose responsibility

(TURN TO PAGE 144, PLEASE)

use only
FACTORY NEW
GENUINE
BENDIX DRIVES
and
PARTS!



Bendix Drive

ECLIPSE MACHINE DIVISION of **Bendix** AVIATION CORPORATION
ELMIRA, NEW YORK

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"Now there's a heart rending scene!"

When you ...
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When You Need an Extra Truck Occasionally ... Call Hertz

When you have a peak load period . . . or when you're faced with an unexpected emergency, you can quickly rent a clean, modern, expertly maintained Hertz truck for as long as you want it. And it's economical because Hertz furnishes all gasoline, oil . . . Public Liability, Property Damage, Fire and Theft Insurance, and \$100.00 deductible collision protection—*at no extra cost!* In fact, Hertz furnishes everything but the driver!

Hertz Truck Rental Service is easy to get . . . complete . . . convenient

Who rents from Hertz? Large corporations, small companies and individuals, too, rent Fords or other sturdy trucks from Hertz. You need only a driver's license and proper identification to rent the truck you need for your specific job. In most of the more than 550 cities in the world-wide Hertz System, fleets of modern $\frac{1}{2}$ -ton to 2-ton capacities, in

pickup, panel, van and stake body trucks are always ready for immediate use.

How much red tape? None at all! Accredited business firms simply call on the phone, make arrangements, send a driver for the truck. In a matter of minutes your driver will be on his way. You pay only for actual time and mileage . . . with no hidden charges of any kind.

How small the cost? For example: the rate for the use of a 2-ton van truck for 4 hours in Camden, New Jersey, is only \$3.20, plus 9 cents per mile, including gasoline, oil . . . and insurance. Thus, the total cost for a 30 mile trip is only \$5.90. Rates lower by the week or on long-term lease. (In some cities, the rates may vary slightly from the above example.)

For complete information about short-term renting or long-term leasing, call your nearest Hertz office, or write to address below.

Long-term lease. Hertz Truck Lease Service, for one truck or a fleet, is a proved plan that releases capital investment, and yet gives every single advantage of ownership at a cost often less than privately operated trucks.

Look in your telephone directory under "H" for your nearest Hertz office



Dept. S85, 218 S. Wabash Ave., Chicago 4, Ill.; phone: WEBster 9-5165

HERTZ Truck Rental SYSTEM

Need a car? Hertz has them, too! Low rate includes gasoline, oil and proper insurance. Call your local Hertz office.



Mobile Lube Units . . .

Continued from Page 142

bility it then becomes. When they lubricate they also inspect. This does not take the place of regular inspections by mechanics at prescribed mileages which are, for gas-powered equipment, 1, 2, 6, 12, 24, 30, 60 and 120 thousand miles. Diesel service is similar

except that it runs up to 140,000 miles. Trailers and dollies are examined and serviced at 1, 6, 12 and 24 thousand.

Procedure for lubrication is divided into categories of "vital" and "general," which are carried out at the same time. Vital lubrication covers greasing such parts as bearings, clutch throwout, fan, water pump and universal joints. Spring shackles, spring pads, steering apparatus and torque

arms are covered in general lubrication.

Eight Mobile Units

Creepers are the rule wherever lubrication is performed. Mobile units have been in use five years at San Francisco and 15 years in Los Angeles. In fact, the first step in setting up a new shop is to order a new mobile unit. There are now eight such trucks in the system. They are of course supplemented by lube equipment in the shops, which includes wheel bearing packers, Alemite air grease guns, transmission and differential grease dispensing units and hand grease guns with special types of grease for vital parts.

A typical lube truck carries four drums of lubricants, one with hypoid 90 gear oil, one with chassis grease and two with motor oils.

In most shops, airing is done from a truck similar to the mobile lube unit. Lube and air equipment is mounted in separate trucks so that it can handle specialized jobs independently of each other. PMT has found it worthwhile in most cases to have the air and lube separate.

How has PMT's lubrication-maintenance system paid off? Here's one typical answer you'd get from management: major engine overhauls, once performed at as little as 50,000 miles, now are pegged at 165,000 miles. For results, that's hard to beat.

END

Please Resume Reading Page 76

the fleet maintenance
tool that pays for
itself...with the
money it saves...

NEW Series 1200
HYPRESSURE
JENNY
STEAM CLEANER

SIMPLE...RUGGED...POWERFUL...EFFICIENT READY TO CLEAN AT THE FLIP OF THE SWITCH

This new, Series 1200 heavy-duty, 120 gallons-an-hour Hyp pressure JENNY, operating at 80 to 120 pounds pressure, is the ideal service tool for fast, economical vehicle maintenance. Simply constructed for minimum maintenance, rugged and powerful, it is ready to clean at the flip of a switch. There is no lost "warm-up" time . . . no tedious adjustments. From a cold start to full cleaning capacity takes less than 90 seconds. And records show that it will actually pay for itself in a few months with the man-hours and money it saves cleaning vehicles and equipment for servicing or repairs.

Your JENNY Jobber can arrange for you to put a new, Series 1200 Hyp pressure JENNY to work on easy and convenient terms, so that it will actually pay for itself with the money it saves.



MAIL THE COUPON TODAY! No obligation.

Without obligation send me full particulars on:

- New Series 1200 Hyp pressure JENNY.
- Jobber time-payment plan.

Name _____ Title _____

Company _____

Address _____

City _____ State _____

HYPRESSURE JENNY DIVISION
HOMESTEAD VALVE MANUFACTURING COMPANY

Serving Since 1892

P.O. Box 90

Corporation, Pa.



"Article 7, Rule 4—Proof of trip time discrepancy!"

you can see why

TECK IS GUARANTEED

RUST PROOF
CORROSION PROOF

for 2 years



TECK MUFFLERS are GALVANIZED

No wonder Teck Mufflers last longer and are guaranteed against corrosion. All the steel surfaces of Teck Mufflers — *inside and outside* — have a protective heavy coating of zinc.

With Teck's Hot Dip Galvanizing Process *after* fabrication, the molten zinc actually alloys to all parts of the base metal. This completely seals out the elements which cause rust and corrosion.

You can stop muffler failure before it starts by specifying Teck GALVANIZED Mufflers. Write today for your free copy of the new Teck Galvanized Muffler catalog.

Note Teck unique baffle design which protects against objectionable noise without back pressure . . . the large portholes deliver almost "straight-through-power" performance . . . no small holes or tubes to clog . . . easy to install—no universal models.

TECK
GALVANIZED MUFFLERS
Complete Heavy Duty Line for TRUCKS • BUSES • DIESELS

677 Oakland Park Ave.
Columbus 11, Ohio

All Teck Mufflers are guaranteed against perforation by corrosion, clogging, defects in workmanship and material. If, within two years of installation, any Teck Muffler becomes defective during normal operation, the manufacturer agrees to allow the original user full credit for the unexpired period of the guarantee against the cost of a new muffler on the current list price. This guarantee does not cover labor charges or any other claim incidental to replacing of a defective part.

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Fleetman's Library

Continued from Page 88

Water pump catalog is available from Airtex Automotive Division, Fairfield, Ill. It includes application data by truck and engine, shows possible application for each pump, has an interchangeability chart. For a free copy, circle L 4 on the postcard on page 84.

Flexible exhaust hose made by The

Flexaust Co., New York City, is described in this new bulletin. It covers the complete line of flexible exhaust hose and accessories made by the company for garage and shop exhaust systems. Circle L 5 on the postcard on page 84 for a free copy.

Truck scales ranging in size from 60-ft platform sizes to axle-load sizes and ranging in capacity from 20 to 60 ton are covered in a new booklet just published by Toledo Scale Co., Toledo, Ohio. Circle L 6 for a free copy.

Battery chargers for both 6- and 12-volt operation are described in this booklet from Allen Electric & Equipment Co., Kalamazoo, Mich. Circle L 7 on the postcard on page 84 for your free copy.

Mufflers and accessories are described in this new 100-page catalog available from AP Parts Corp., Toledo, Ohio. There is a special section on exhaust systems for heavy duty trucks. Circle L 8 on the postcard for a free copy.

"Flaw Location with Dye Penetrants" is the title of a newly released 23-min, 16-mm film produced by Turco Products, Inc. It gives the full story on locating defects with dye penetrants, including several truck and bus shop scenes. To arrange a showing of the film, write Turco Products, Inc., 6135 South Central Ave., Los Angeles 1, Cal.

"The Drivers' Digest" is the title of a new monthly publication designed for drivers that encourages driver safety. It can be bought in quantity, mailed direct to the driver's home. For further data, circle L 9 on the postcard on page 84.

Power lift gate in 1100-lb capacity made by Daybrook Hydraulic Division, L. A. Young Spring & Wire Corp., Bowling Green, Ohio, is illustrated and described in this new folder. For a free copy, circle L 10 on the postcard.

END

Please Resume Reading Page 90



Another Job Made EASIER with a BRADEN Winch

Every week we hear of new ways BRADEN owners are putting their BRADEN Truck Winches to work. BRADEN'S ruggedness, safety and dependability, make them economical on any handling job.

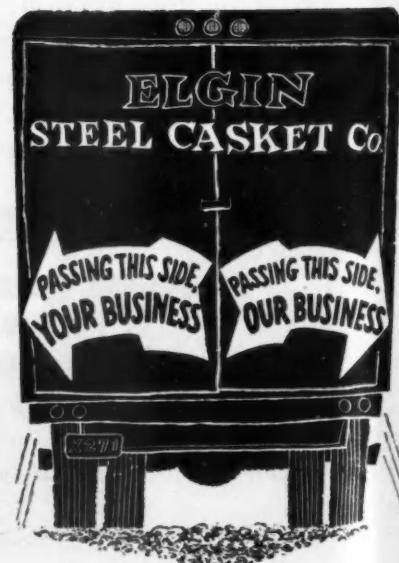
BRADEN Winch sizes are available from 3,000 to 100,000 pound capacity models, to fit any make of truck. Be Safe . . . use BRADEN Truck Winches.

BRADEN WINCHES ARE IN SERVICE AROUND THE WORLD

Write for Complete Catalog

BRADEN WINCH COMPANY

P.O. Box 547, Broken Arrow, Oklahoma



This rear-end safety reminder can actually be seen on trucks of the Elgin (Ill.) Steel Casket Co. fleet.

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Make this simple test before
you buy a new truck.



IS Saving Money WORTH A SECOND GLANCE?

Sun and sky glare can wear your drivers down and slow up your business. That's why you see glare-reducing E-Z-EYE Safety Plate Glass with the shaded band in so many trucks.

Before you buy a new truck prove to yourself how well E-Z-EYE works. Open the door, glance through the opening, then through E-Z-EYE

windshield. That second glance may show you the way to some long-term savings.

E-Z-EYE is another L·O·F development for the automotive industry. For further information, write Dept. 5485, Libbey·Owens·Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio. Or call your local L·O·F Glass Distributor.

E-Z-EYE SAFETY PLATE

with the shaded windshield

Reduces Glare, Eyestrain, Sun Heat

E-Z-EYE
SAFETY [L·O·F] PLATE

New Product Descriptions

Continued from Page 86

guides trailer wheels onto the runways. Trailer spotting is simplified. End of the leveler farthest from the dock is pivoted on a heavy hinge assembly. Two 40,000-lb capacity hydraulic jacks raise or lower the end nearest the dock. Vertical travel is 24 in. In use, the truck or trailer backs onto the leveler. Push-button

controls actuate an electric power unit which raises or lowers the leveler until the trailer bed is level with the loading dock.

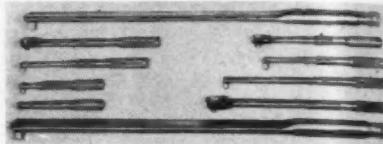
P24. Welding Blowpipe

Linde Air Products Co., Division of Union Carbide and Carbon Corp.,

New York City, has introduced a new medium-pressure oxy-acetylene blowpipe, the "Oxweld" W-45. It offers 18 welding head sizes, 8 multiflame heating heads, and 8 extensions, offers welding and heating range of 2 through 300 cu ft per hr.

P25. Torque Wrenches

Plumb Tool Co., Los Angeles, Cal., has added 10 new Model No. F "Proto" torque wrenches to its line. They are calibrated to an accuracy of plus or minus 3 per cent plus a maximum



of 2 lb. The new ones use a torque-limiting principle instead of dials, scales, or other indicating devices. When the desired torque set on the micrometer-type handle is reached, the wrench releases automatically, signals the user with a reflex action, and resets itself. The new line includes models with $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ and $\frac{5}{8}$ in. drives, with plain and ratchet heads, and with capacities from 5 to 4800 in. lb and 100 to 500 ft lb.

P26. Metal Filler

Destiny Products Co., Detroit, announces an aluminum based, putty-type metal filler compound trade named "destiMETAL." A companion product to the metal filler is also announced, a thinner and solvent called "destinSOL." "destiMETAL" can be

(TURN TO PAGE 150, PLEASE)

1/2-Ton 4-Wheel Drive



Genuine, top-grade WIX HEVI-DUTY ridges, shipped paid, direct from factory or nearest Warehouse, saving through your wholesaler. At most saving WIX prices!

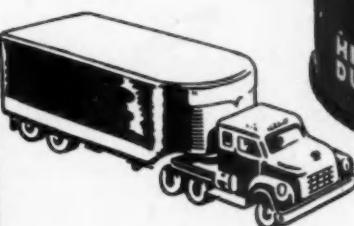
First demonstrations of the new $\frac{1}{2}$ -ton model "Power Pak" 4-wheel drive were conducted in Minneapolis, Minn., recently. It is manufactured by Napco Products Division, Napco Industries, Inc. The $\frac{1}{2}$ -ton model is now in production along with models for $\frac{3}{4}$, 1, $1\frac{1}{2}$ and 2-ton Chevrolet and GMC trucks. According to Napco engineers the truck will handle a 70 per cent grade.

The advertisement features a cartoon character with a large head, a small body, and a wide, worried expression. The character is holding a small piece of paper and has one hand raised in a 'stop' gesture. To the left of the character is a large, bold word 'STOP'. Below the character is a speech bubble containing the text 'BURNING UP RUBBER!'. Below the speech bubble is a circular inset showing a mechanical device, identified as a 'HANDY GOVERNOR'. The brand name 'KING-SEELEY' is written in a stylized font above the inset, and 'CORPORATION' is written below it. The entire advertisement is set against a light background with a wavy line separating the top section from the bottom inset.

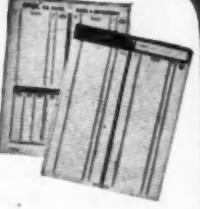
KING-SEELEY CORPORATION
ANN ARBOR, MICHIGAN

Save Money on Maintenance!

**USE THE THRIFTIER
OIL FILTER CARTRIDGE
FOR EVERY FLEET VEHICLE**



FLEET SURVEY
WIX surveys your filtration needs FREE, sets up an Inventory-Control System which solves your cartridge-supply problem . . . automatically!



FLEET MANUAL
Shows the whole story on every payload unit at a glance . . . performance, maintenance, repairs. FREE with your first WIX-PAX order.



LIFE
POST
POPULAR SCIENCE
POPULAR MECHANICS



Genuine, top-grade WIX HEVI-DUTY Cartridges, shipped pre-paid, direct from factory or nearest WIX Warehouse with billing through your local wholesaler. At money-saving WIX-PAX prices!

WIX-PAX SERVICE



WIX puts you time and money ahead . . . with complete Oil Filtration Service for every vehicle in your fleet. WIX surveys your filtration needs FREE and provides a time-saving inventory system tailor-made for your fleet. And the WIX Line is *complete* — for trucks, passenger cars and stationary engines, full-flow and partial-flow systems, gasoline or Diesel engines, lube or fuel oil.

WIX keeps your maintenance down — cuts cartridge costs, oil consumption, engine wear and expense. Ask for your FREE Filtration Survey. Call your nearest WIX Jobber, or write direct — today!

wix
OIL FILTERS / CARTRIDGES

AUTOMOTIVE • INDUSTRIAL • RAILROAD
WIX CORPORATION • GASTONIA • N. C.
In Canada: Wix Accessories Corp. Ltd., Toronto

New Products

Continued from Page 148

applied without heat, as a filler, to other metals, wood, plastics, fibre glass, and plaster. It can be drilled, milled, tapped, sanded, filed, ground, and generally worked as any other metal alloy. When thinned with its solvent, "destinSOL," the metal filler compound can be sprayed on metal, wood, plastic, fibre glass, and plaster surfaces as a coating or lining.

P27. Air Gun

Gilmour Mfg. Co., Somerset, Pa., offers a new pistol-grip, positive-control mechanism in the Gilmour Hosemaster No. 482 air blow gun. Exclusive ring lock at rear of nozzle permits holding any desired air pressure indefinitely, even while the grasp is relaxed.

P28. Plating Compound

Cromit Products Corp., Roslindale, Mass., announces a new process of

cold plating of metals, wood, plastics and compositions. The process chemically combines metal and liquids which are sprayed and buffed to a bright plated surface. "CROMIT" can be applied by spraying with a standard lacquer type gun, by dipping, or by flowing on with a brush. "CROMIT" metal—brass, copper, stainless steel, aluminum or chrome—can be built up to a thickness in minutes of spraying time.

P29. Dual Tire Valve

Carlan Instruments, Cranston, R. I., announces a dual tire valve designed to prevent overloading on one tire of a pair of duals. It has a safety shut-

New Prod

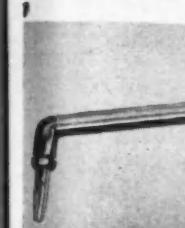
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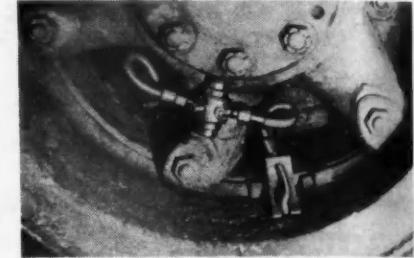
The "Foto-Tel" service all pass
heavy trucks, it
not necessary to
skirts, or any o
or wheel when

P31. Oxy-ac

Linde Air Pr
of Union Carbide
New York City,
weld" CW-45 cu



signed for use w
W-45 blowpipe.
steel 8 in. thick
ment operates o
of only 5 psi is
mittent cutting.



off in case of a flat or blowout. This valve is adjustable so that in event of a slow leak, air will transfer from the good tire to keep the faulty one equal in pressure down to the desired minimum. If either valve hose is cut, operation automatically ceases without loss of air.

P30. Wheel Balancer

Wheel Balancer Manufacturers Association, St. Louis, Mo., announces a new photo-electronic wheel balancer. The unit, known as the "Foto-Tel," is small and completely portable, and houses only one tube to permit easy

(TURN TO PAGE 153, PLEASE)

P32. Marker

K-D Lamp Co
announces two n
524 clearance m
524-1 armored li

Hickok's

Flexible Roll-Up Doors



Flexible fiberglass doors, which roll up conveniently under the body top have been developed by Timmons Metal Products Co., Columbus, Ohio. Made of Alsynite translucent fiberglass panel, the roll-away doors have no moving parts, are as easily raised as a window. Since the fiberglass doors are said not to chip, dent, break or warp, maintenance costs are low. With the color sealed in the material, the panel will neither fade, wash off nor scrape off.

COMMERCIAL CAR JOURNAL, August, 1955

New "Hickok" belt kit, developed by the company, created Automotiv... Hickok Mfg. Co. The belt was designed by the company's Nautical Laboratory after several years of research. To achieve maximum strength, the belt is designed to fit around the frame of the vehicle. A steel bar (picture) is used to support the belt and can withstand a load of 3000 lb. (i.e., the force of the body against the belt loop) of 3000 lb. A strap tensile load of 1500 lb.

COMMERCIAL CAR JOURNAL

"HINGED" AND LOCKED WITH EberHARDWARE

For Longer Delivery Service Life

Body built by Aluminum Body Corp., Montebello, Calif.



Over a long period of years, experts with "top notch" reputations in the body building business have relied upon Eberhard Truck Body Hardware to meet the stringent requirements of their customers.

For modern functional design with long service life and greatest adaptability, Eberhard products are unexcelled. This claim is readily substantiated when one considers the year in year out volume of E items which go into the manufacture of commercial vehicles of all types, in all fields.

You, too, can do a better job with EberHARDWARE.

Catalog available upon request.

EBERHARD MANUFACTURING COMPANY

Evarts Ave., Cleveland 4, Ohio

Division of The Eastern Malleable Iron Company

TRUCK BODY HARDWARE BY

EBERHARD

THE MOST COMPLETE LINE AVAILABLE



New Products

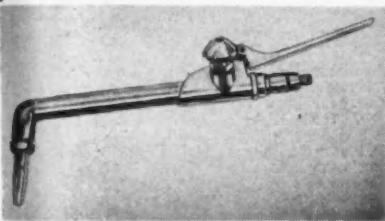
Continued from Page 150

maintenance, the company states. Dynamic balance correction is said to be obtained merely by moving a switch.

The "Foto-Tel" has full capacity to service all passenger cars, light and heavy trucks, it is claimed, and it is not necessary to remove hub caps, skirts, or any other part of the car or wheel when using the unit.

P31. Oxy-acetylene Cutter

Linde Air Products Co., Division of Union Carbide and Carbon Corp., New York City, announces its "Oxweld" CW-45 cutting attachment, de-

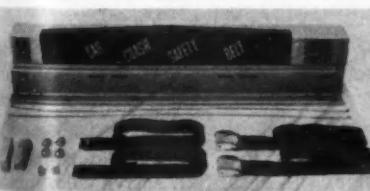


signed for use with the new "Oxweld" W-45 blowpipe. Capable of cutting steel 8 in. thick, the cutting attachment operates on acetylene pressure of only 5 psi and is intended for intermittent cutting.

P32. Marker Lights

K-D Lamp Co., Cincinnati, Ohio, announces two new lights, the K-D 524 clearance marker light and K-D 524-1 armored light. The lens is re-

Hickok's Safety Belt



New "Hickok" vehicle crash safety belt kit, developed by the recently created Automotive Safety Division, Hickok Mfg. Co., is pictured above. The belt was designed by Cornell Aeronautical Laboratory for Hickok after several years of research and testing. To achieve maximum efficiency, the belt is designed to be attached to the frame of the vehicle by means of a steel bar (pictured above in the rear), and can withstand a closed belt loop load (i.e. the force imposed by the body against the closed or buckled belt loop) of 3000 lb minimum, and a strap tensile load (tension in the belt) of 1500 lb.

moved by quarter turn to left. After the bulb has been replaced, merely insert the lens and turn right till locked. There are no screws or retaining rings. Both lights are waterproofed by means of rubber lens gasket and connector grommet.

P33. Hose Clamp

Circle Clamp Corp., New York City, announces a new hose clamp that can be fixed in place with ordinary pincers. The clamp is round with U-shaped folds or lugs. Smaller

size clamps have two lugs and the larger ones, three.

P34. Body Reflector

Yankee Metal Products Corp., Norwalk, Conn., announces a new reflex reflector especially for shallow installations. Its overall height from mounting position is only 7/16 in. The 3-in. Stimsonite reflector has a rust-proof aluminum frame and is available in red or amber.

END
Please Resume Reading Page 88

YOU CAN **GET PROOF**
That **ATI "Engine Mated" MUFFLERS**

GIVE YOU

- **MINIMUM BACK PRESSURE**
- **MAXIMUM QUIET**
- **BETTER FIT**
- **BIGGER PROFITS!**

Let your nearest ATI distributor prove to you today that ATI "Engine Mated" Mufflers give you all the advantages others can only claim. You get these advantages because only ATI heavy duty, heavy gauge all-welded steel mufflers are custom specified to the cubic inch displacement of each of your truck and bus engines. **ONLY ATI MUFFLERS FIT YOUR ENGINE . . . NOT JUST THE EXHAUST PIPE . . .** to give you maximum performance—quietly.

Show in the box at right is what operators everywhere are getting from ATI "Engine Mated" Mufflers. Get proof of all these claims from your nearest ATI supplier today. If you don't know his name, fill out and mail the coupon. We'll get details to you at once.

MAXIMUM QUIET

ATI Mufflers perform well under noise standards established by the A.T.A. and A.M.A. They eliminate fumes, noise complaints . . . give better driver comfort, less fatigue.

MINIMUM BACK PRESSURE

ATI Mufflers meet or beat engine manufacturers' requirements to give you increased engine performance, greater fuel mileage . . . more horsepower.

BETTER FIT

for maximum operating efficiency, greater safety, less danger from CO fumes . . . for ease of installation.

BIGGER PROFITS

ATI "Engine Mated" Mufflers mean lower cost per mile, longer life, fewer replacements, less maintenance.



Alexander-Tagg
INDUSTRIES, INC.

HATBORO, PA.—OSborne 5-7200

manufacturers of replacement mufflers, wheel dollies

Name.....

Address.....

City..... Zone..... State.....

August News Roundup

Continued from Page 104

in recognition of outstanding claim prevention programs during 1954 by the National Freight Claims Council, American Trucking Assns. Top trophy winners were:

CLASS A—(\$8,000,000 annual revenue)—First, Johnson Motor Lines, Inc., Charlotte, N. C.; second, Camp-

bell "66" Express, Inc., Springfield, Mo.; third, Carolina Freight Carriers Corp., Cherryville, N. C.

CLASS B—(\$3,000,000 to \$8,000,000 annual revenue)—First, Be-Mac Transport Co., Inc., St. Louis, Mo.; second, Davidson Transfer & Storage, Baltimore, Md.; third, Miller Motor Express, Inc., Charlotte, N. C.

CLASS C—(less than \$3,000,000 annual revenue) — First, Frederickson Motor Express Corp., Charlotte, N. C.; second, Haack's Express, Inc., Hamilton, Ohio; third, Murphy Motor Freight Lines, Inc., St. Paul, Minn.

Kurtz Resigns

The Board of Directors of the Empire State Highway Transportation Assn. has accepted the resignation of Frank B. Kurtz, its Director of Public Relations. He will set up an insurance office at 161 William Street, New York 38, N. Y. From there he will conduct a general advisory service to truckmen on insurance and financing problems.

1955 Truck Trailer Shipments*

	May	Five Months
Vans:		
Insulated and Refrigerated:		
Steel.....	126	579
Aluminum.....	350	1,556
Furniture:		
Steel.....	191	838
Aluminum.....	12	53
All other closed-top vans:		
Steel.....	710	3,335
Aluminum.....	1,876	8,633
Open-top:		
Steel.....	190	597
Aluminum.....	309	663
Total—Value.....	3,784	16,885
Tanks:		
Petroleum.....	358	1,706
All other.....	43	258
Total—Tanks.....	401	1,964
Pole, Pipe and Logging:		
Single Axle.....	65	294
Tandem Axle.....	158	590
Total.....	223	884
Platforms:		
Racks, livestock and stake.....	86	490
Grain bodies.....	63	367
Platforms (flats), all types.....	672	2,755
Total—Platform.....	821	3,612
Low-bed heavy haulers:		
Dump trailers.....	272	1,250
All other trailers.....	185	728
Total—Complete Trailers.....	294	1,783
Chassis only.....	302	1,435
Total—Trailers and Chassis.....	6,282	26,341

* Industry Division, Bureau of the Census.

New Consolidated Prexy

John L. S. Snead, Jr., was named president of Consolidated Freightways, Portland, Ore., at the motor freight firm's annual board of directors' meeting last month. He succeeds Leland James, who moved up from the presidency he has held for 26 years to become chairman of the board. Snead has been Consolidated's executive vice president since 1949. James will retain an active role in policy and management affairs in his new post. He succeeds E. W. A. Peake, Hollywood, Calif., one of the early founders of the company, who will continue to serve as a director.

Pa. Turnpike Tolls

The Pennsylvania Turnpike Commission has placed in effect a classification schedule which, with the passage of HB. 1288 (the truck weight bill), substantially raises Turnpike fees for tandem axle semi-trailers
(TURN TO PAGE 156, PLEASE)

1 Protect ones, cost ... they can ... protects load ... demand

2 Protect ... stands of do ... using inferior economy. A investment. throughout

3 Protect ... improve. A adjustments time. It prevent costs.

Leading fl ... is why they ... choice on ... three-way pr ... Jobber or w ...

AMERICAN
Brake Sh ...

COMMERCIAL CAR JOURNAL

Here's Why!
RMC
"Super-Duty"
VALUES
give
BETTER
"Heavy Duty"
PERFORMANCE

RICH MANUFACTURING
BATTLE CREEK
MICH., U.S.A.

BASIC VALVE MANUFACTURER
FOR ORIGINAL EQUIPMENT
SINCE 1908

Look for this seal
on every RMC
"Super-Duty"
Valve box.



IN
FAIR WEATHER

OR

FOUL

1 Protect Loads—Accidents, even minor ones, cost money. And when they damage loads, they can cost customers, too. American Brakeblok protects loads. It responds instantly, to the severest demands, under all driving conditions.

2 Protect Equipment—Investing thousands of dollars for rolling equipment and then using inferior or unknown brake lining is false economy. American Brakeblok safeguards your investment. It retains its superior stopping ability throughout its entire life.

3 Protects Profit—Cut costs and profits improve. American Brakeblok requires fewer adjustments, reduces labor and equipment down time. It protects drums, too; saves replacement costs.

Leading fleet owners have proved all this. That is why they have made American Brakeblok first choice on their equipment. Give your fleet this three-way protection. Call your nearby N.A.P.A. Jobber or write us direct.

**Get 3-Way Protection
With**

American
REG. U.S. PAT. OFF.
Brakeblok



Thick Blocks



Riveted Lining



Bonded Lining

Copyright 1955, American Brake Shoe Company



AMERICAN BRAKEBLOK DIVISION Detroit 9, Mich.

PLANTS IN: Detroit, Michigan; Winchester, Virginia; Lindsay, Ontario; Gif, France

August News Roundup

Continued from Page 154

combinations. In connection with this development, PMTA has held a preliminary conference with a small group of Turnpike users to consider a program of action and plans a meeting of PMTA's Turnpike Committee for an early date.

Stewart Joins Faltin

J. E. Faltin Motor Transportation,

Inc., Manchester, N. H., announces the appointment of Roy H. Stewart as operations manager. Stewart was executive secretary of the Operations Council, ATA.

Nylon Tarpaulins

Within five years, coated nylon tarpaulin truck covers should replace most of the standard cotton canvas tarps used today on the nation's 2,000,000 open trucks. Use of these nylon protective covers can save truckers more than \$150,000,000. This was the forecast by Amos Griff-

fin, vice president, Amerotron Corp., a Textron American company, as he introduced the firm's new line of Superlite nylon fabrics.

Advantages of the new covers, cited by Amerotron are: New coated nylon tarpaulin covers weigh only one-half to one-third as much as cotton canvas covers now generally used. They have at least twice the life expectancy and about three times the tear resistance of ordinary tarpaulins. They provide complete and permanent protection against water and rain, freezing temperatures, rot and mildew, as well as against gasoline, oils and chemicals. They remain flexible when exposed to any of these conditions. Repair costs are lower because the new material can be patched on the job like an inner tube.

ANNOUNCING A FEW OF THE NEW HANSEN PRODUCTS



**1
P
O
I
N
T**



1-POINT LOCK and FLUSH HANDLE. Locks door at ONE point—center. Locking Latch, 1" wide, attached to Flush Handle. Latch lifts or lowers by turning operating handle. Lock No. 101-S — 3 1/4" I.D., 4 1/8" O.D., 1/2" deep. 101-L — 4 1/2" I.D., 6" O.D., 1/2" deep.

for door
CENTERS



**2
P
O
I
N
T**



2-POINT LOCK and FLUSH HANDLE. Locks door at TWO points—top and bottom. Lock fitted with two rods, 30" long, with rod guides and springs. Rods cut to length to suit door height. Lock No. 102-S: FLUSH HANDLE, 4 1/8" O.D. 102-L, 6" O.D.

TOP and BOTTOM of doors

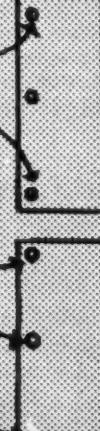


**3
P
O
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T**



3-POINT LOCK and FLUSH HANDLE. Locks door at THREE points—center, top and bottom. Locks at center by latch; at top and bottom by ends of rods. Lock complete includes two 30" rods and Flush Handle with Latch 1" wide. Lock No. 103-S: FLUSH HANDLE, 4 1/8" O.D. 103-L, 6" O.D.

TOP CENTER and BOTTOM



REQUEST
COMPLETE
DETAILS

A. L. HANSEN MFG. CO.

5047 RAVENSWOOD AVE.

CHICAGO 40, ILL.



INTRODUCING ...



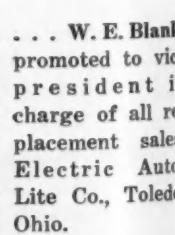
... Wesley M. Coon, promoted to driver superintendent, Spector Motor Service, Inc., Chicago.



... Charles B. Black, promoted to southwest zone fleet sales supervisor, Dodge Division, Chrysler Corp., Detroit.



... Melvin K. McGregor, appointed sales manager, Ahlberg Bearing Co., Chicago.



... W. E. Blank, promoted to vice president in charge of all replacement sales, Electric Auto-Lite Co., Toledo, Ohio.

... A. M. Rotoli, appointed southeastern region (Atlanta, Ga.) sales manager, Kelite Corp., Los Angeles, Cal.

... Russell B. Frye, transferred to Pittsburgh, Pa., district manager, and Donald E. Pruss, promoted to Grand Rapids, Mich., district manager, tire division, United States Rubber Co., New York City.

(TURN TO PAGE 160, PLEASE)

— from F-900 to Thunderbird !



E. Blank,
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Ga.) sales
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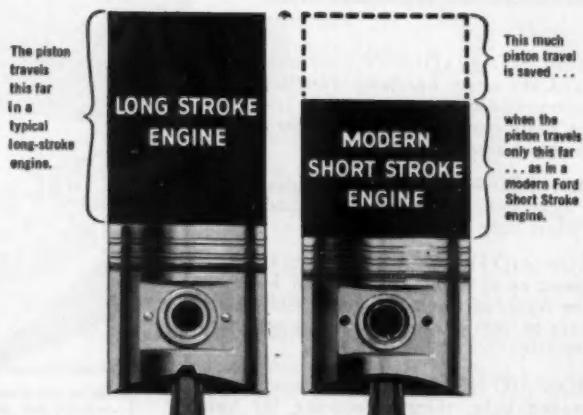
nsferred to
anager, and
d to Grand
anager, tire
Rubber Co.

PLEASE)

For your fleet operation, too, go Ford. Short Stroke design, graphically explained by the diagram on the right, is yours in every Ford engine—from the 118-h.p. Cost Clipper Six to the 170-h.p. Cargo King V-8. Ford's Short Stroke power gives you specific advantages—1) up to 53% longer piston ring life; 2) engine friction reduced by as much as 33%; 3) gas savings up to 1 gallon in 7. And it's backed by over 3 years and 5 billion miles of on-the-job experience.

So, for your fleet operation, better go Ford. Call your nearest Ford Dealer for complete information, or write: Ford Division, Fleet Sales Department T-1, P.O. Box 658, Dearborn, Michigan.

FORD TRIPLE ECONOMY TRUCKS



When you shorten the piston stroke, you shorten piston travel. Less piston travel means less friction. And that means longer life, greater gas savings, more usable power. A small difference in stroke makes a big difference in savings. In one case, Ford's stroke is shorter by $1\frac{1}{3}$ inches. This saves 2,090 miles of piston travel per piston in an average year's driving of 11,000 miles.

August News Roundup

Continued from Page 156

... David Ramsey, promoted to manager, Los Angeles branch, Hall-Scott Motors Co., Berkeley, Cal.

... G. W. Hill, promoted to automotive branch supervisor, Automotive Division, Wagner Electric Corp., St. Louis, Mo.

... George J. Hauser, appointed field representative, Highway Trailer Co., Edgerton, Wis.

... Joseph V. Garvey, appointed assistant general manager, Harrisburg Railways Co., Harrisburg, Pa. He was superintendent of operations, Covington (Ky.) Railway Co.

... Bernard J. Donkerbrook and Burton F. Bennett, appointed sales managers in the eastern and western divisions respectively, truck department, Studebaker Division, Studebaker-Packard Corp.

... H. C. Stivers, promoted to sales manager, The AP Parts Corp., Toledo, Ohio.



... Harry A. Ronan, promoted to New England regional manager (Winchester, Mass.), and Walter B. Williams, appointed trucking radio specialist (Detroit), Motorola Communications and Electronics, Inc., Chicago. Williams was Detroit Police Radio Bureau supervisor.



... Lester Hill, promoted to tire sales manager, Dunlop Tire and Rubber Corp., Buffalo, N. Y.

... H. K. Hershey, promoted to New England representative (South Boston, Mass.), Manley Division, American Chain & Cable Co., Bridgeport, Conn.



... W. R. Williams, promoted to executive sales engineer, Bendix Products Division, Bendix Aviation Corp., South Bend, Ind.



... P. E. Tobin, promoted to sales manager, Truck Division, The White Motor Co., Cleveland, Ohio.

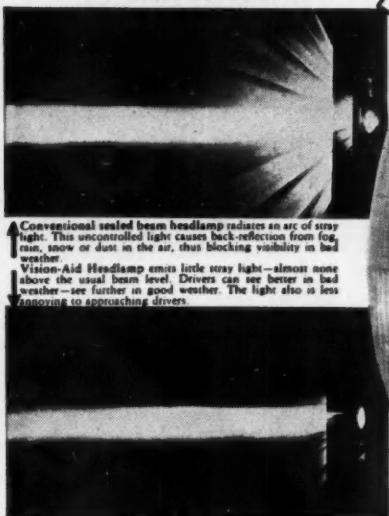
... James W. Grimm, promoted to Philadelphia regional manager, replacement sales dept., AC Spark Plug Division, General Motors Corp., Flint, Mich.

... Glenn D. Guild, Albert L. Touchette and William P. Wood, promoted to truck sales promotion managers in the southwest (Kansas City, Mo.), midwest (Detroit) and south-

(TURN TO PAGE 162, PLEASE)

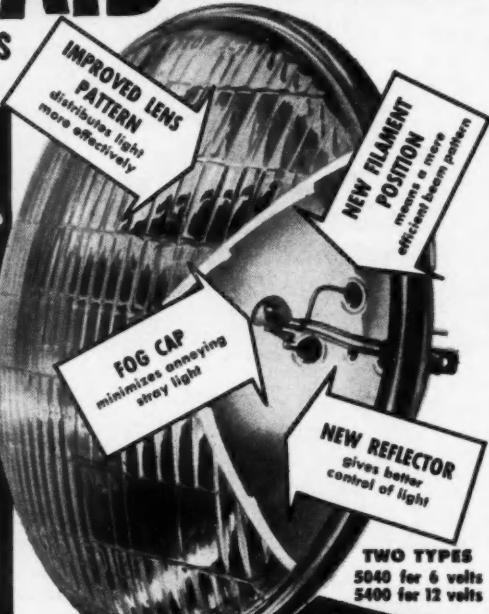
New TUNG-SOL All-Glass Sealed Beam VISION-AID HEADLAMP

IMPROVED BEAM PROVIDES BETTER VISIBILITY



Conventional sealed beam headlamps radiate an arc of stray light. This uncontrolled light causes back-reflection from fog, rain, snow or dust in the air, thus blocking visibility in bad weather.

Vision-Aid Headlamp emits little stray light—almost none below the usual beam level. Drivers can see better in bad weather—see further in good weather. The light also is less annoying to approaching drivers.



TWO TYPES
5040 for 6 volts
5400 for 12 volts



Be the first in your community to offer this new and safer headlamp to your customers. Order Tung-Sol VISION-AID HEADLAMPS from your jobber today.

TUNG-SOL ELECTRIC INC., Newark 4, N. J.

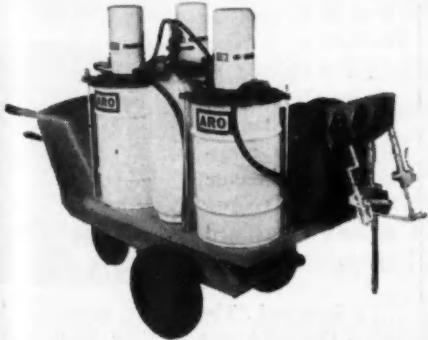
Sales Offices: Atlanta, Chicago, Columbus, Culver City (Los Angeles), Dallas, Denver, Detroit, Newark, Philadelphia, Seattle.
Tung-Sol makes All-Glass Sealed Beam Lamps, Signal Flashers, Picture Tubes, Radio, TV and Special Purpose Electron Tubes, and Semiconductor Products.

90 ARO REELS

For Detroit
Street Railway!



ARO PRIME - LUBRICATOR



Goes Anywhere!

The *only* self-propelled, self-powered portable lubrication unit . . . ideal for fleet operators! Complete including 3 reels, 3 pumping units, air compressor, and 6 H.P. four cycle gasoline engine. Write for details.

In the world's motor center—this installation of 90 ARO Overhead Reels speeds up fleet maintenance in this modern bus-service garage. Each 9-reel battery services two lifts with chassis, gear lubricant, motor oils, air, water and anti-freeze. Six ARO Heavy-Duty Pumps located in lube storage room efficiently serve the 90 reels.

Aro dependability pays off with fast, clean service . . . saves labor, reduces costs! Let ARO help you with your fleet lubricating problems.

See your ARO jobber

THE ARO EQUIPMENT CORPORATION

Bryan and Cleveland, Ohio

Aro Equipment of California, Los Angeles, Calif.

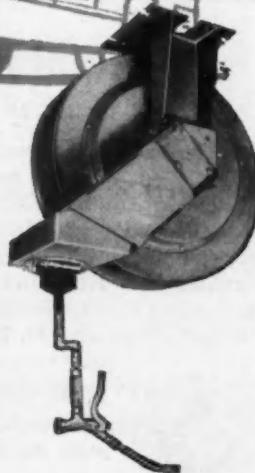
Aro Equipment of Canada, Ltd., Toronto 15, Ontario

Offices in All Principal Cities

ARO

LUBE EQUIPMENT

Also . . . Air Tools . . . Aircraft Products
Grease Fittings



CAMPBELL CHAINS

Foul-weather Friends!



"TRACTION KLIPS" for Emergencies

Just tuck a "Klip" under each rear wheel. Roll on—and out of trouble! Campbell "Traction Klips" get you out of ruts, up slippery hills, away from icy gutters. And, even if your wheels are spinning, the "Klip" will be picked up instantly. Handy remover-tool gets "Klips" off in seconds. For emergency use on passenger cars, taxis, light trucks.

Tested and Certified by
Motor Vehicle Research, Inc.



TRUCK AND BUS CHAINS in Three Grades

Protect your profits and your drivers from the hazards of winter weather. Campbell Truck and Bus Chains are available in every size... for every type of service. *Lug-Reinforced* for maximum traction and wear—*Highway Service* for general use—*Mud Service* for off-the-road use. Color-coded bags save handling time—make identification easy. Ask your jobber to recommend the correct Campbell Chain for the job. If you prefer, write direct.

"KWIK-ON" TIRE CHAINS—ON THE WHEEL IN LESS THAN A MINUTE

Complete chains for continuous use—yet on in just a minute a wheel! No need to jack up or move vehicle. When time means money—here's the quick, easy way to keep your fleet on the move in any weather! *Lug-Reinforced* or Regular cross chains.

CAMPBELL CHAIN Company

MAIN OFFICE, YORK, PA.

West Burlington, Iowa; Portland, Oregon; Sacramento, Calif.

Chain for every need...industrial...marine...farm...automotive

August News Roundup

Continued from Page 160

east zones respectively, Dodge Division, Chrysler Corp., Detroit.

... William E. Liesman, promoted to assistant sales manager, Parish Pressed Steel Division, Dana Corp.



... Jeffrey S. Riddle, appointed Philadelphia traffic representative, Associated Transport, New York City.

... Hugh Kiedrowski and Myron G. DuSault, appointed division sales managers in Los Angeles, Cal., and Portland, Me., respectively, Dunlop Tire & Rubber Corp., Buffalo, N. Y.



... Kenneth F. Lingg, promoted to service manager, Rochester Products Division, General Motors Corp., Rochester, N. Y.

... J. H. Dahlstrom, promoted to Salt Lake City, Utah, district manager, The Firestone Tire & Rubber Co., Akron, Ohio.

... Edmund C. Corbett, promoted to Ill., Ind. and Wis. sales manager, Speedi-Dri Corp., Philadelphia.

... M. D. Garnas, promoted to Fargo, N. D., district manager, The Firestone Tire & Rubber Co., Akron, Ohio.



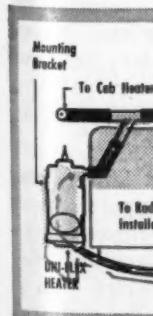
... Robert S. Schuyler, promoted to truck dept. sales manager, Studebaker Division, Studebaker - Packard Corp.

... George L. Thompson, promoted to New England states, New York state and metropolitan New York zone manager, Purolator Products, Inc., Rahway, N. J.

... Wallace Hallam, promoted to Philadelphia district manager, Mack Trucks, Inc., New York City.

... Henry N. Anthony, Royden C. Presley and Walton P. McCord, promoted to district managers in Phila-

(TURN TO PAGE 164, PLEASE)



For the
EASIEST WINTER
you ever had

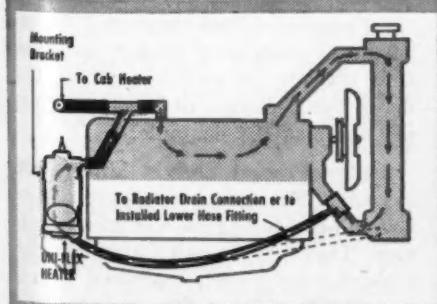
Install a

UNI-FLEX ENGINE HEATER



You can stop worrying about winter starting and service troubles by equipping your vehicles now with Uni-Flex Engine Heaters. For only a few cents' worth of electric current a day, this low-cost, thermo-controlled unit will keep the engine warm and ready for instant pullout in any weather. No more towing expenses! No more late starts!

Uni-Flex will pay for itself over and over by increasing starter and battery life, and by reducing fuel, lubrication, maintenance, and storage costs. For quick delivery, send for full details now.



OPERATING PRINCIPLE

Uni-Flex is small, compact. Can be installed in an hour. Operates on thermo-syphon principle. Heated coolant expands and is forced to top of engine, through engine and radiator, and back to heater. Thermo-control automatically turns current on and off to maintain pre-set economical temperature.



What UNI-FLEX will do for you

- ★ **QUICK STARTS** at any temperature. Keeps engine warm.
- ★ **LONGER LIFE** for battery, starter, and plugs.
- ★ **LOWER MAINTENANCE COST.** Reduces wear caused by racing cold engine.
- ★ **LOWER FUEL CONSUMPTION.** No waste due to choking and idling.
- ★ **LOWER LUBRICATING COST.** Reduces sludging and oil breakdown.
- ★ **LOWER STORAGE COST.** Permits storage outdoors or in unheated sheds.
- ★ **LOW OPERATING COST.** Thermostat automatically maintains right temperature.



TECH PRODUCTS, Inc.

611 Pennsylvania Avenue

ELIZABETH, N. J.

August News Roundup

Continued from Page 162

delphia, Buffalo, N. Y., and Birmingham, Ala., respectively, Allegheny Ludlum Steel Corp., Pittsburgh, Pa.

B. C. Simpson, president of Simpson Trucking Co., elected president, Georgia Motor Trucking Assn., Atlanta, Ga.

Venlo Wolfsohn, appointed de-

partmental assistant, Transportation and Communication Dept., Chamber of Commerce of the United States. He was northeastern public relations director, American Trucking Assns.

John A. Zenzen, reappointed general sales manager, The Herman Body Co., St. Louis, Mo.



Robert C. Andrews, appointed sales manager, Axle Division, Clark Equipment Co., Buchanan, Mich.



C. W. Grinstead, promoted to central sales division manager, Willys Motors, Inc., Toledo, Ohio.

Albert C. Snyder, personnel and safety director of Bryant and Chapman Co., elected chairman, Council of Safety Supervisors, Motor Transport Assn. of Conn., Hartford, Conn.



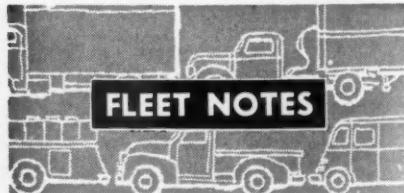
W. P. Davis, vice president, promoted to be in charge of the fleet's entire operation, Associated Transport, New York City.

Thomas L. Dahl, appointed security and safety division director, Eldon Miller, Inc., Iowa City, Iowa.

M. W. Morgan, promoted to operations director and safety director, Liberty Motor Freight Lines, Kenmore, N. Y.

J. Van Stonestreet, promoted to operations manager, Hennies Freight Lines, Inc., Winston-Salem, N. C.

John C. Mider, Jr., appointed Atlanta, Ga., accident prevention district supervisor, Complete Auto Transit, Inc., Detroit.



School Bus Rental Service, Inc., a subsidiary of Boston, Worcester & New York Street Railway Co., Framingham, Mass., has just completed its third year of school bus rental. It has 44 buses operating under the plan that provides everything but the driver for a charge of \$1800 per year per bus plus 12¢ per mile.

Yellow Transit Freight Lines, Kansas City, Mo., announces purchase of 200 cab-beside-engine Kenworth tractors. They use the new Cummins JT-6 turbocharged diesel, combined with a

(TURN TO PAGE 201, PLEASE)

August Ne

35-ft trailer length.

Super Service ville, Tenn., ar bock, Texas, ha ments for Los schedule, throu both tl and ltl

Philadelphia Philadelphia, P with General buses at an ap million. They 50-seat, air sus put into service

Seattle Tra Wash., has ann new 51 - pass buses from Ger mate cost of t

Hertz Corp ches North Rental Co. E trucks on long for transient r

Philadelphia Philadelphia, I a new headqua tralized mainte fleet's 1100 bus

Pacific Int Oakland, Cal., Transportation Lines and M Lines for over

Consolidated land, Ore., 1 school graduat \$500 college s six grants-in- been given n selected by th

Motor Carg begun constru 000 general c Market St.

Roadway I Ohio, celebra this year. Its 1700 trailers miles a year

National T neapolis, Min 150 hi Fruehauf, inc reefers and 5

Buckingham Rapid City, S 25th annivers

(TURN TO

COMMERCIAL C

It's time you changed



Flexible RIBBED CUPS!*



* Patent No. 2,465,175

TIME-TESTED
FOR MORE THAN 10 YEARS!!
PROVEN BETTER
THAN "ORIGINAL-GENUINE" PARTS!!

If you're experiencing trouble with Chrysler Products wheel cylinders — if you're experiencing trouble with Ford, Chevrolet, International, GMC and other trucks using chevron cups — NOW is the time to change to EIS Flexible RIBBED CUPS. They do the job better — faster and they're cheaper in the long run.

EIS Flexible RIBBED SECONDARY CUPS are now part of EIS Master Cylinders. As fast as production capabilities permit, EIS RIBBED CUPS will be installed in all EIS Master Cylinders. Some EIS Kits now have them; more and more are being added.

EIS AUTOMOTIVE CORP., MIDDLETOWN, CONN.



Write for Catalog

REPLACE... REPAIR...

REFILL WITH EIS



THE COMPLETE BRAKE PARTS LINE



August News Roundup

Continued from Page 164

35-ft trailer with a 45-ft overall length.

Super Service Motor Freight, Nashville, Tenn., and T.I.M.E., Inc., Lubbock, Texas, have announced arrangements for Los Angeles to New York schedule, through trailer service for both LTL and ITL freight.

Philadelphia Transportation Co., Philadelphia, Pa., has placed an order with General Motors for 350 new buses at an approximate cost of \$7½ million. They will be similar to the 50-seat, air suspension buses recently put into service.

Seattle Transit System, Seattle, Wash., has announced purchase of 100 new 51-passenger diesel-powered buses from General Motors. Approximate cost of the order is \$2.1 million.

Hertz Corp., Chicago, has purchased Northern California Truck Rental Co. Hertz now has 16,200 trucks on long term lease or available for transient rental.

Philadelphia Transportation Co., Philadelphia, has announced plans for a new headquarters building and centralized maintenance facilities for the fleet's 1100 buses.

Pacific Intermountain Express, Oakland, Cal., has purchased Orange Transportation Co., Collett Tank Lines and M and M Fast Freight Lines for over \$2 million.

Consolidated Freightways, Portland, Ore., has awarded 18 high school graduates in its territory with \$500 college scholarships. In addition, six grants-in-aid of \$250 each have been given non-tax support colleges selected by the scholarship winners.

Motor Cargo, Inc., Akron, Ohio, has begun construction of its new \$360,000 general office building on West Market St.

Roadway Express, Inc., Akron, Ohio, celebrates its 25th anniversary this year. Its fleet of 1500 tractors and 1700 trailers covers about 71 million miles a year serving 56 terminals.

National Trailer Pool, Inc., Minneapolis, Minn., has ordered an additional 150 high cube trailers from Fruehauf, including 50 open tops, 50 reefers and 50 dry freight vans.

Buckingham Transportation, Inc., Rapid City, S. D., is celebrating its 25th anniversary this year. The fleet

(TURN TO NEXT PAGE, PLEASE)

THERE'S NO SUBSTITUTE FOR LUBER-FINER'S ENGINEERED PROTECTION!

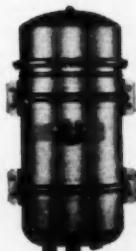


USE ONLY GENUINE

Luber-finer
DIESELPACKS

YES! IT'S WHAT'S
INSIDE THAT COUNTS!

The Efficiency of Luber-finer's
Exclusive Patented Process
HAS NEVER BEEN EQUALLED!



Only a Luber-finer Unit Plus a
Genuine Luber-finer Pack can
give the Exclusive Patented
Filtering Process that has made
Luber-finer The Standard Of The
Industry Since 1936!!



THERE'S A LUBER-FINER MODEL FOR EVERY TYPE
OF ENGINE...EVERY TYPE OF OIL!!

LUBER-FINER PACKS AVAILABLE

1. REFINING PACK—Introduced to the public in 1935 for use with straight mineral oils, fuel oils, hydraulic oils, and inhibited industrial oils.

2. DIESELPAK—First made available in 1941, the DIESELPAK was primarily designed for use with H.D. detergent compounded oils and has also achieved outstanding results when used with fuel oils and straight mineral oils.

DON'T BE MISLED BY PRICE ALONE!

There is NO substitute for DIESELPAK's Patented Filtering Process for H.D. Compounded oils AT ANY PRICE!

The DIESELPAK cleans more oil faster—keeps it CLEAN longer—and gives more service and better engineered protection than ANY of the substitute filtering elements being offered for Luber-finer units.

IT PAYS TO GET THE BEST!

STANDARD OF THE INDUSTRY SINCE 1936

Luber-finer Units are Standard and Optional Equipment on America's Leading Diesel Trucks, Tractors, Stationary Engines

WRITE FOR COMPLETE INFORMATION TO DEPT. 1

LUBER-FINER, INC., 2514 S. Grand Ave., Los Angeles 7

Equip your fleet with **PAC-KIT®**



... "first aid" for goodwill

A truck or bus is often first on the scene of a highway accident. In such emergencies, an adequate selection of first aid supplies, instantly available, can provide beneficial relief to the injured until a physician or ambulance can be summoned.

Then too . . . there's the matter of constant protection for your own personnel at any time of day or night . . . anywhere.



4 AVAILABLE SIZES — containing from 10 to 36 replaceable packets, as indicated by potential hazard.

Contents of PAC-KITS

include first aid accessories for

- FAINTING
- LACERATIONS
- BURNS
- FRACTURES
- TRAUMATIC
- EYE INJURIES
- HEMORRHAGE

WRITE TODAY for complete descriptive literature and prices

The PAC-KIT Company
P. O. BOX 1306 • GREENWICH, CONN.

August News Roundup

Continued from Page 201

has announced plans for new terminals in Rapid City and Minneapolis, Minn., at a cost of \$850,000, and purchase of Dakota Transfer & Storage Co., subject to ICC approval.

Johnson Storage & Van Co., Dallas, Texas, celebrates its 30th anniversary this month.

Hussman & Roper Freight Lines, Inc., St. Louis, Mo., has awarded two high school seniors \$500 college scholarships.



Fleets honoring their outstanding, safe drivers this past month include:

Motor Cargo, Inc., Akron, Ohio—to 219 drivers. Awards were made at the fleet's eighth annual safety banquet attended by over 400 drivers,

wives and guests. The award-winning drivers earned a total of \$16,950 in savings bonds for their safe driving records.

Subler Transfer, Inc., Versailles, Ohio—to 17 drivers. Top men were two drivers with 12-year no-accident records and one with a 14-year record.

Department of Street Railways, Detroit—to 10 drivers. Each has a record of at least 15 years without a chargeable traffic accident.



Four Wheel Drive Auto Co., Clintonville, Wis., announces appointment of Kimball Equipment Co., Salt Lake City, Utah, as sales, parts and service dealer for FWD trucks in the state of Utah.

Dunlop Tire and Rubber Corp., Buffalo, N. Y., won first and second place in awards at the recent Awards Dinner of the Niagara Frontier Chapter, National Industrial Advertisers Assn.

(TURN TO PAGE 206, PLEASE)

Standard's New and Exclusive Camshaft Service

Reclaims Worn Camshafts

Good as New
In Performance
In Length
of Service

at $\frac{1}{3}$
the Cost

of Replacements

Satisfaction Guaranteed

Write today for full information

Standard Crankshaft & Hydraulic Co., Inc.
2917 Rozzell Ferry Rd., Charlotte, N.C., Phone: FR 6-2374-5-3417

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16,950 in
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Co., Inc
374-5-3449
August, 1955

HAVE 46% LOWER COST PER MILE



"**205,000 MILES OF SERVICE**—145,000 miles on original tread, plus 2 recaps averaging 30,000 miles each—that's what we expect from our nylon cord tires. Nylon cords give *twice* the mileage we got from ordinary tires, cut our costs per mile 46%," reports Delbert Aikins (right), owner of Aikins Motor Express, Osgood, Indiana.

"We started using nylon cord tires in 1953, hauling milk, food and mail throughout the East and Midwest. Since then, our records prove that nylon cord tires give us more original miles, more recaps—cut our costs per mile and reduce time-consuming road delays."

August News Roundup

Continued from Page 202

The company's series of ads in Commercial Car Journal in 1954 was one of the award winning campaigns.

Stewart-Warner Corp., Chicago, announces an agreement to purchase the **John W. Hobbs Corp.**, Springfield, Ill. Hobbs Corp. makes specialty automotive electrical devices.

Mack Trucks, Inc., has announced a \$9 million bus order for 440 units from the City and County of San Francisco, Cal. They will be 48 passenger models, 102-in. wide. Immediate delivery will be made on 100 buses with the balance to follow over the next 5 years. Mack has also received a \$4 million order from the Defense Dept. for 148 10-ton, 6x6 prime movers. Defense orders for this unit now total 255.

Thermoid Co., Trenton, N. J., has established a new warehouse at 730 Peachtree St., Atlanta, Ga.

Metalphoto Corp., Cleveland, printers of photographs on pre-sensitized anodized aluminum plate, has appointed **Gross Photo Mart, Inc.**, Toledo, Ohio, as northwest Ohio distributor.

Allen Electric and Equipment Co., Kalamazoo, Mich., has opened a new factory sales and service branch at 862 Walker Rd., Walkerville, Ontario, Canada.

Diesel Energy Corp., New York City, announces plans for reorganization to provide nation-wide sales and service for Deutz diesel engines.

Binkley Mfg. Co., Warrenton, Mo., has appointed **Thomas Auto Body Parts Co.**, 630 Washington St., Reading, Pa., as its new eastern warehouse, serving Conn., Del., Me., Md., Mass., N. H., N. J., N. Y., Pa., R. I., Vt. and Va.

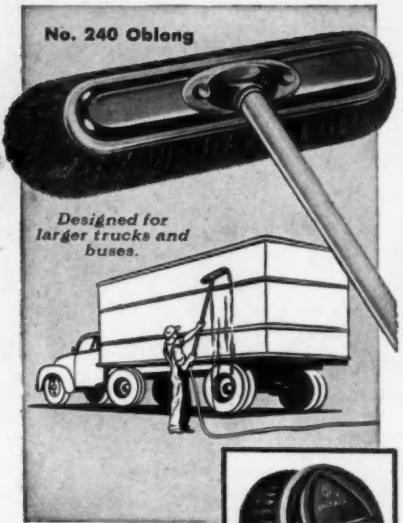
Morrison Service Body Division, Morrison Steel Products, Inc., Buffalo, N. Y., has appointed **Fisher Truck & Trailer Equipment Co.**, and **Capitol Trailer & Body Co.** as its distributors in the Toledo, Ohio, and Springfield-Decatur, Ill., areas respectively.

Hall-Scott Motors Co., Berkeley, Cal., announces entrance into the diesel engine field with engines for bus, truck, industrial and marine use.

Fruehauf Trailer Co., Detroit, has opened a new branch plant in Columbus, Ohio. In addition to sales, dis-

(TURN TO PAGE 208, PLEASE)

SPEED WASH Outlasts 3 Ordinary Fountain Brushes



NOT even three ordinary fountain brushes can match the long lasting performance that results from the superior construction and design of Speed Wash. Soft, resilient bristles (50% Nylon, 50% Select Horsehair) can't mat or tangle. Tufts are molded into block, can not come out or come loose. Steel back is waterproof and surrounded by a mar-proof bumper. Handle is zinc plated inside and out. Features like these make Speed Wash the quality brush of the trucking industry, preferred by thousands of the nation's biggest fleet operators. You'll like Speed Wash, too. Order yours today.

PRICES EITHER STYLE			
IN LOTS OF:			
Complete	1	6	12
with 5 ft. handle	\$12.45	\$11.65	\$10.90
			\$10.15

MILWAUKEE DUSTLESS BRUSH CO.
530 North 22nd St., Milwaukee, Wis.

Please ship the following:

Quan.	No.	Item	Price
240	OBLONG SPEEDWASH		
250	ROUND SPEEDWASH		

NAME _____
ADDRESS _____
CITY _____ STATE _____

FOR SUPERIOR
RESISTANCE to
ABRASION and
CORROSION



Built to give long service where conditions are especially rough on hose lines. Reinforced with high tensile strength wire braid with outer cover of tough synthetic rubber. In bulk Hose or Hose Assemblies with Stratoflex "over the cover" detachable, reusable fittings. Write for your FREE catalog or order through your dealer.

★ Hose Assemblies

★ Re-usable Hose Fittings



Dealership Available
in Some Areas

STRATOFLEx

STRATOFLEx, INC. FORT WORTH, TEXAS

P. O. Box 10398

General Offices—P. O. Box 10398

Fort Worth, Texas

Branch Plants—Los Angeles and Toronto

Sales Offices—Atlanta, Chicago, Dayton,

Houston, Kansas City, Los Angeles, Portland,

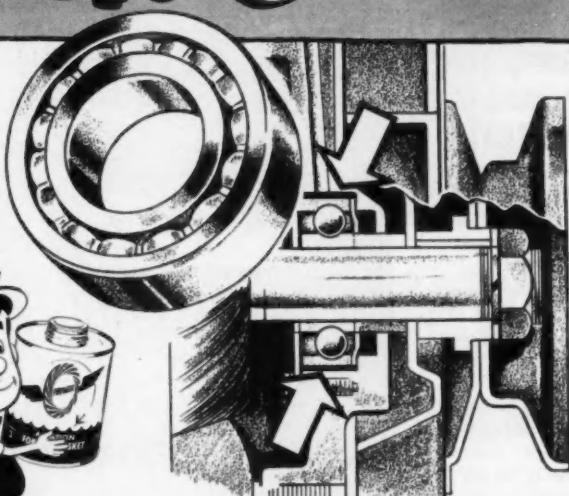
New York, Toronto, Tulsa

SERVICE TIPS

FROM
PERMATEX

ELIMINATES GENERATOR NOISE

THIS NOISE, CAUSED BY WEAR ON THE EXTERIOR OF THE OUTER RACE, CAN BE STOPPED BY COATING THE BEARING RECESS WITH A LIGHT FILM OF **FORM-A-GASKET No. 3** BEFORE INSTALLING THE NEW BEARING.



PREVENTS CYLINDER OIL LEAKS

A THIN COAT OF **FORM-A-GASKET No. 2** APPLIED TO THE PUSH ROD COVER GASKET WILL PREVENT OIL LEAKS AND PERMIT EASY DIS-ASSEMBLY AT ANY TIME.



WATER-PROOFS SIGNAL LIGHTS

MARKER AND SIGNAL LIGHTS INSTALLED ON METAL TRUCK PANELS CAN BE MADE WEATHER TIGHT BY COATING THE MOUNTING FLANGE WITH **FORM-A-GASKET No. 1**.



Form-A-Gasket withstands the enormous pressures of modern high compression engines. It is unaffected by gasoline, hot or cold oil, grease and water, anti-freeze. Always say PERMATEX Form-A-Gasket when you order sealing compound.

EVERY SHOP NEEDS ALL THREE TYPES

- No. 1 — Sets quickly. Dries hard.
- No. 2 — Sets slowly. Remains pliable.
- No. 3 — Brushable. Sets to a paste. Remains tacky.

FORM-A-GASKET.

MORE THAN 50 CHEMICAL PRODUCTS
FOR BETTER AUTOMOTIVE MAINTENANCE

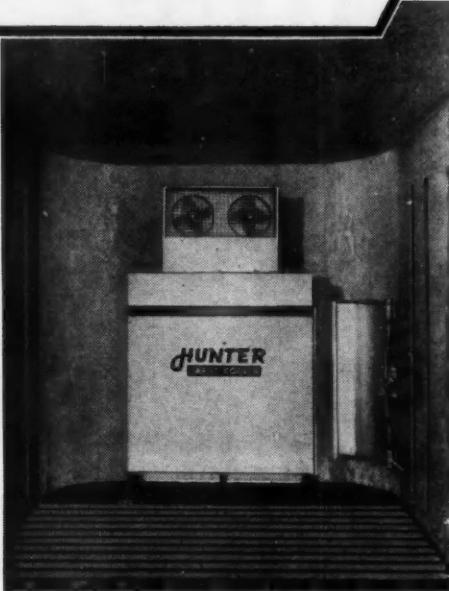
PERMATEX COMPANY, INC., BROOKLYN 35, N. Y. • KANSAS CITY 15, KAN.

HUNTER CARGO COOLER

CONTROLLED DRY ICE REFRIGERATION SYSTEMS

LIGHT-WEIGHT, LOW-COST, DEPENDABLE REFRIGERATION

- Bigger payloads — weighs only 375 lbs. — compact, 19 in. x 48 in. x 75 in.
- Low cost — less initial investment — low operating costs.
- Minimum maintenance — greatly reduces upkeep and repair costs.
- Quick turn-arounds — no downtime for servicing — quickly re-iced.
- Makes total road failure of refrigeration an impossibility.
- Complete thermostatic control — temperatures from 0° to 60°.
- 3 Models — 600 lbs. and 1050 lbs. dry ice capacity — also combination heater-refrigeration unit.



Write for descriptive literature, specifications, prices.



HUNTER MANUFACTURING CO.
1550 E. 17th ST., CLEVELAND 14, OHIO

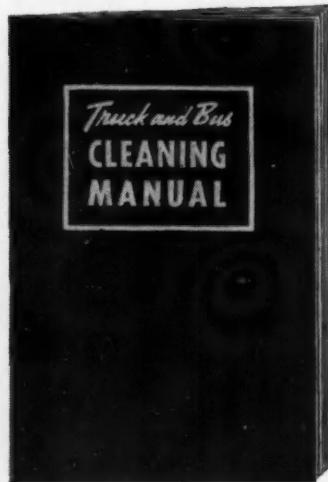
Are You Satisfied with
ALL Your Cleaning Methods?

BETTER CHECK!

Until you've checked your present procedures against modern Magnus Cleaning Methods, you'll never know what savings you can make in time and manpower...what improvements you can realize in the quality of your cleaning.

Use the Coupon. Write for the
Truck and Bus Cleaning Manual.

Here's a manual that shows you how to cut costs and improve results in cleaning engine parts...body washing...floor cleaning...radiator conditioning...and all your other cleaning operations. You'll be especially interested in the method of removing sludge and "varnish" from your engines without dismantling.



MAGNUS CHEMICAL CO., INC.
38 South Ave., Garwood, N.J.

Please send us a copy of the Magnus Truck and Bus Cleaning Manual.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____



August News Roundup

Continued from Page 206

tribution and service, the new plant is equipped to manufacture custom trailers on a small scale.



California—Minimum standards for brake fluids have been established (H336). Public Utilities Code affecting common and contract motor carriers has been amended (S715). A Reciprocity Commission has been created authorized to negotiate reciprocity agreements with other states to provide for pro-rata registration of interstate fleets, to provide temporary trip permits for non-resident operators (S135).

Connecticut—New Haven may make regulations on highway use by through trucks in the city except on trunk lines or state highways (S897). Motor fuel tax is increased to 6¢ per gal effective July 1, 1955 (S14X).

Delaware—Most of Uniform Code provisions on vehicle lighting, including multiple-beam equipment, has been adopted (H443). Carrier requirements for markings on vehicles used in explosives transport have been amended to conform with ICC regulations (H622).

Florida—Transport of obscene printed matter into or in the state is prohibited (S270). Transportation of explosives is regulated (S94). Owner of vehicle is subject to financial responsibility requirement in same manner as vehicle operator (S81).

Georgia—Vehicle fees have been increased about 50 per cent (H4X). Motor fuel tax rate is increased to 6½¢ per gal effective July 1, 1955 (H7X). Uniform Vehicle Code provisions on multiple-beam lighting equipment have been adopted, new type sealed-beam unit is approved (S4X). Commercial vehicle operators are required to either purchase fuel in the state sufficient for the mileage operated in the state or pay tax on fuel used in state but purchased elsewhere (H9X).

(TURN TO PAGE 210, PLEASE)

COMMERCIAL CAR JOURNAL, August, 1955

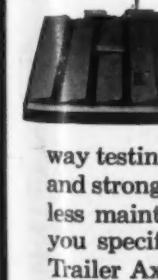


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COMMERCIAL C

LIGHTER and STRONGER!



TDA trailer axles

Where payload decides the profit, lighter, stronger TDA Trailer Axles can be a vital asset to truckers.

Proved far stronger, more rugged and safer in all-out "Torture Chamber" tests, TDA Trailer Axles are also many pounds lighter than any competing axle on the market today. Weight saving is possible through the TDA exclusive design and construction.

Other hidden quality features that increase TDA life and performance are forged alloy steel spindles, cam roller mountings in nylon bushings, machined cam head, cleaner cut splines and self-aligning camshaft support brackets. Good reasons leading manufacturers and operators specify TDA.

Here, in the world's largest trailer axle plant at Kenton, Ohio, are built the finest trailer axles in the world. Continual laboratory and high-

way testing prove TDA Trailer Axles to be the lightest and strongest; and for greater safety on the highway—less maintenance and more pay load—make certain you specify Timken-Detroit "Quality-Built" Truck-Trailer Axles on your next trailer purchase.

These Exclusive Advantages
of TDA Trailer Brakes Are
Examples of Timken-Detroit
Hidden Quality!

Pressed Steel Brake Shoes that save many pounds per axle . . . give strong braking action with no distortion. Patented liner shape gives longer liner life with even wear. Liners riveted on . . . no chance of movement on shoe . . . and liners are circle-ground to insure absolute concentricity of liners and drums. Rustproofed anchor pins locked in. Exclusive self-aligning camshaft housings. Cam rollers heat-treated to roll smoother, wear longer. First with all-nylon camshaft bushings. Part for part TDA Brakes incorporate the finest quality materials, skilled workmanship and advanced design.



NO TUBELESS TIRE PROBLEMS

when you use

RUGLYDE
with
Controlled Friction

Follow the advice of leading tire manufacturers. Use RUGLYDE Rubber Lubricant and the handy RUGLYDE Service Kit for safer, faster, easier tubeless tire mounting and demounting!

With RUGLYDE's exclusive Controlled Friction feature, you're assured of proper lubrication for safe, easy bead seating—and protection against damage to sealing ridges caused by tire tools. Yet, after inflation, the tire will stay in position . . . won't slip.

New tubeless tire instruction folder gives full details—write us for your free copy today.



AN AGS
PRODUCT

*RUGLYDE is the registered
trade-mark of

AMERICAN GREASE STICK CO.
Muskegon, Michigan

August News Roundup

Continued from Page 208

Illinois—Counties may impose taxes for federal-aid matching purposes (H208). Turn signals are required on new trucks and buses sold after July 1, 1955 (H314). Applications for overweight or oversize permits may be required to show origin and destination points and the state or local authority may designate the route to be followed (S478).

Michigan—Auto transporters or haulers of hay, straw or outboard motor and row boats are permitted at 18½-ft height limit (H19). Windshield washers are required on all vehicles made after Jan. 1, 1956, and all commercial vehicles are required to have an electrical, hot air or other "scientific" windshield defroster between Dec. 15 and March 15 (S1093). County road commissioners are given authority of peace officers to stop overweight vehicles (H270). Vehicle operators with vehicle fuel supply tank over 25-gal in capacity are required to purchase fuel in state sufficient for mileage operated or pay tax on fuel used in state but purchased elsewhere (H475). Minimum amount required under financial responsibility laws are increased to \$10/20/5000 (H17). Vehicle accidents involving damages over \$100 must be reported to Secretary of State (H396).

Nebraska—Truck registration fees have been increased, and negotiation of reciprocity agreements with other states has been authorized (LB519). Steeper penalty is provided for failure to stop buses, school buses or vehicles transporting explosives or flammable liquids at uncontrolled grade crossings (LB407). Vehicles loaded with livestock are exempt from being stopped for weighing while in transit (LB339).

New Hampshire—Axles less than 10 ft apart (except for 3-axle single units) are limited to 18,000 lb per axle; single axle limit is increased to 22,400 lb; loads of over 600 lb per inch of tire width are prohibited; axle spacing table is provided for 3-axle tractor-semi-trailer combinations up to 52,800 lb and up to 66,400 lb for 4-axle combinations (H78).

New Jersey—The state's Supreme Court has, by a 7-0 vote, upheld conviction of a bus driver for exceeding speed limit on N. J. Turnpike. The conviction was based on radar evi-

(TURN TO PAGE 212, PLEASE)

SAVE A LIFE!

THE THREE STAR SAFETY PLATE
Assures positive protection against exploding lock rings. It is simple to use—light and fits all wheels and rims.

JACK P. HENNESSY SALES CO.
12 DEPOT SQUARE ENGLEWOOD, N.J.

**HEAVY DUTY
MOTOR TRUCKS
GASOLINE ELECTRIC
GENERATING SETS**

DUPLEX

TRUCK COMPANY
LANSING, MICHIGAN

GALION
ALLSTEEL BODY CO.
GALION, OHIO

the sign of quality on

DUMP BODIES OF ALL TYPES
HYDRAULIC HOISTS
HYDRAULIC END-LOADERS
PACKER-TYPE REFUSE BODIES

THE GALION ALLSTEEL BODY COMPANY • GALION, OHIO
Division of Central Ohio Steel Products Co.

There are now
120 Water Pumps
in our line
Wohler Corporation
LANSING 5 MICHIGAN

Lasco
MOUNTAIN MASTER
BRAKE LINING
America's Finest!
From Hollywood to Manhattan—Demanded by Fine Car, Bus and Heavy Transportation Owners. Get the BEST for a Few Cents More. Cut Costs—Prevent Accidents—Save Lives! Dealer inquiries are invited. Write or wire.
→ A LAKER INDUSTRIES PRODUCT ←
LASCO BRAKE PRODUCTS CORP. MEMPHIS 7, TENN. OAKLAND 7, CALIF.

HYDRO

Maximum
More Work
Greater Tin

Operators on
hauls—dump
tractor—rep
Willock Hy
Axles are h
and economy

Hydro-Tr
distribution
to 80-20 cab
maximum tr
fast, econo

Weight is
quick-actin
Less weight
more profit.
makes of tr

**New Tr
Cush**

**Truckstel
Trac Su
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TRUCKSTELL *ON THE JOB* NEWS



THE FINEST IN ENGINEERED FOR-THE-JOB TRUCK EQUIPMENT

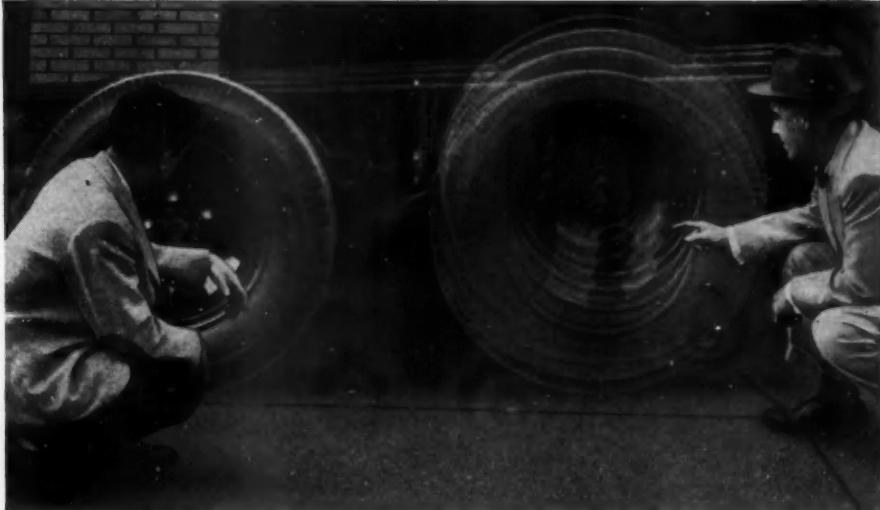
HYDRO-TRAC PROVIDES CAB-CONTROLLED TRACTION

Maximum Payload Capacity; More Work Miles per Day; Greater Tire and Gas Savings!

Operators on many types of 6-wheel hauls—dump, tank, lumber, van, semi-tractor—report that their Truckstell-Willock Hydro-Trac Trailing 3rd Axles are hitting new performance and economy highs.

Hydro-Trac supplies 50-50 axle load distribution for greatest payloads, up to 80-20 cab-controlled distribution for maximum traction, trailing axle up for fast, economical return trips, empty.

Weight is shifted hydraulically by quick-acting, cab-controlled pump. Less weight, less cost, more payload, more profit. Models engineered for all makes of trucks and types of drives!



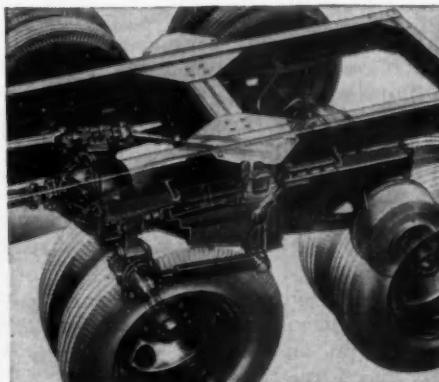
To get extra traction, driver can transfer up to 60% of the Hydro-Trac Axle's load to the driving axle . . . providing highway traction equal to a dual-axle drive, at far less cost. As stop-motion picture shows, axle can be raised off road when truck is empty, giving single-axle advantages on return trips.

New Truckstell Dual-Axle Drive Suspension Cushions the Ride and Actually Steers!

Truckstell combines Tandem-Trac Suspension with its 3-Speed Power Divider

Engineered for rugged dual-axle jobs, Truckstell keeps tandem wheels tracking on straightaways, guides them on curves. Variable rate, 2-stage springs give gentle cushioning whether truck is empty or heavy laden. Of rocking-chair bearing design, there's nothing to wear out, no need for lubrication ever!

All the auxiliary gearing needed for added gear splits is provided by the 3 gear ratios built in the Power Divider's single gearbox. Single- or dual-axle drive selection can be made instantly, at any speed. Low in cost,



high in capacity, light in weight, engineered to fit your specific jobs.



3-Speed Auxiliary Now Available With Built-In Power Take-Off

Ideal for mounting under cab. Designed for those who need extra power and gear splits . . . plus full engine torque, variable speed P. T. O. easily accessible to all power-operated units! Optional gear-ratio combinations available!

Truckstell Manufacturing Company
Dept. O-24, Union Commerce Building
Cleveland 14, Ohio

Rush me complete information on the following Truckstell products I've checked.

Dual-Axle Drive Swivel Frame
 Hydro-Trac 3rd Axle Auxiliary and P.T.O.

Name _____

Firm _____

Address _____



Swivel Frame Increases Traction, Maneuverability, Driving Ease

Permits the front and rear halves of a truck to rotate independently. Inexpensive, strong, and light in weight. All wheels are kept firmly on ground. Frame stress and steering wheel fight are eliminated. Maneuverability and traction increased! Models available for all make trucks, $\frac{1}{2}$ ton and up.

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1908
See this ad in a
1000 places

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by Fine Car
the BEST
Accidents
Write or wire
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MEMPHIS 3, TENN.
AKLAND 7, CALIF.

August, 1955

Speed Truck Tire Changes WITH KEN-TOOLS

JOB-DESIGNED
EASIER...QUICKER

Quality tools for trucks, buses, farm tractors, and aircraft. Hand forged from chrome nickel alloy steel. Tougher, last much longer!

T-19 24" Truck and Bus Straight Spoon

T-20 24" Truck and Bus Curved Spoon

T-29 18" Tool for starting first bead down over rim

T-48A 40" Tool for removing and replacing lock rings

KEN-TOOL LOCK RING REMOVERS
stand up under tremendous leverage

T-23 24" For Firestone RD, R-1 Rims

T-25 New 18" Ring Remover for 5° Firestone Rims

T-22 18" Combination Lock Ring Tool

T-27 18" Ring Tool for R-1 Rims

SEE YOUR JOBBER on the complete line of Job-Designed Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. THE KEN-TOOL MFG. CO., AKRON 5, OHIO.

KEN-TOOLS
TIRE-CHANGING
TOOLS KNOWN, USED
AROUND THE WORLD

OVER 70% OF ALL
MAKES OF TRUCKS
AND BUSES ARE
Zollner EQUIPPED
ZOLLNER
HEAVY DUTY PISTONS
ZOLLNER MACHINE WORKS
P.O. BOX 1000, WILMINGTON, DELAWARE

BOWERS BATTERIES

Always Better

BOWERS BATTERY & SPARK PLUG CO., READING, PA.

August News Roundup

Continued from Page 210

dence. Overweight fine is 2¢ per lb for overweight in excess of registered weight or legal limits up to 10,000 lb of overweight, and 3¢ per lb when overweight is over 10,000 lb (H169).

Ohio—Turnpike Commission regulations rather than state law will apply to speed, size and weight of vehicles on state's turnpike (H703). Provision is made to refund motor fuel tax when paid on fuel purchased in the state but used in another state and that state levies fuel tax on the mileage operated therein (H233). Provision is made for permanent axle-mile tax permits, criminal penalties for false mileage reports. Transfer of permits is prohibited (H449).

Pennsylvania—GVW limit for tandem-axle, semi-trailer combinations is increased to 60,000 lb. Single-axle limit is set at 22,400 lb GVW. Other weight limit increases are made. Penalties for overloading are increased; tolerances are decreased. Brake requirements have been amended. Registration fees have been increased (H1288).

Vermont—Tandem-axle trailer or semi-trailer combinations are permitted a weight of 60,000 lb, tractor is not to exceed 30,000 lb, trailer or semi-trailer is to have breakaway brakes. Single unit vehicle with cement mixer is permitted a weight of 32,000 lb. Tandem-axle truck used in highway building or maintenance is permitted 50,000 lb GVW (H322). Overweight permit provisions have been amended. A \$3.75 fee for overweight permits is levied (H326).

Wisconsin—Registration fees for off-highway vehicles are reduced (H572). Motor fuel tax is increased to 6¢ per gal (S426). Width limit of loads of pulp wood, slabs and unplaned dimension material is increased to 102 in. and tie logs have been included in the category (S569). Public liability insurance requirement on rental cars is increased to \$10/20/5000, on trucks of GVW up to 10,000 lb to \$10/20/10,000, on buses to \$20,000 for injury or death of one person and from \$60,000 to \$150,000 for any one accident on various size buses (S85). Vehicles used in urban mass transport of passengers are exempt from motor fuel taxation. Annual registration fee for such vehicles is fixed at \$1 (S449).

END

Please Resume Reading Page 106

FRINK SNO-PLOWS

Both "V" TYPE and
ONE WAY BLADE TYPE

hand or power hydraulic control
FOR ALL MOTOR TRUCKS
FROM 1½ TO 10 TONS

FRINK SNO-PLOWS, INC., CLAYTON, 1000 Isl., N.Y.

FRINK SNO-PLOWS OF CAN. LTD., TORONTO, ONT.

W. G. B. makes OIL FILTERS

from
**60 to 750 Cu. In.
Capacity**
...and Cartridges for
all makes of Filters.

Write for Details

W. G. B. OIL CLARIFIER, INC.
First By Test Since 1931 KINGSTON, N.Y.

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with

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LIGHTER WEIGHT
STEP, SADDLE, &
CYLINDER TANKS

THE LINTERN CORPORATION
ROUTE 20, EAST • PAINESVILLE, OHIO

"BOS" HYDRAULIC TRUCK TIRE DEMOUNTER

removes, safely and easily,
frozen or stuck casings from
rim in minutes. Features
Hein-Werner Hydraulic unit.
Handles all size truck tires,
wheels, and rims.

MAIL ORDERS OR REQUESTS FOR FURTHER DETAILS TO
JACK P. HENNESSY SALES CO.
12 DEPOT SQUARE • ENGLEWOOD 3-4441



SNAP-ON TOOLS CORPORATION
8026-H 28th AVE., KENOSHA, WIS.

COMMERCIAL CAR JOURNAL, August, 1955

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Mechanical
Brake Hook-up

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**IF IT MOVES
WE CAN STOP IT!**



TDA BRAKES

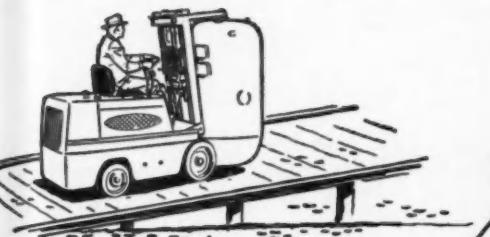
...for every industrial
or automotive application where
braking is required!

FSH... Floating Shoe Hydraulic Brake Designed for close control with heavy loads

The FSH Brake presents some remarkable new advantages to manufacturers who need a better, longer lasting Hydraulic Brake. The features of the FSH were developed after years of field work and laboratory study. These advantages can be a road to new economy and better control for your equipment.

FSH Brake shoes operate with a floating action. This eliminates the danger of liner loads concentrating at one point . . . permits the shoe to follow the drum. The result of this even load distribution is a highly dependable, controllable brake—*in either direction of travel*. This is especially important when stacking heavy loads at high levels and maneuvering at close quarters.

For Additional Information . . . contact the Timken Brake Division. Complete details on the FSH Brake are available. And, a staff of experienced engineers can assist you with any brake problem you encounter.



Mechanical Parking Brake Hook-up

A separate parking brake is no longer necessary with FSH. If specified, the FSH Brake can be furnished with a mechanical parking brake linkage that functions independently of the hydraulic system.



Long Life Lining

Brake lining is bonded to the shoe to give maximum lining area with no lining waste.



Positive Automatic Adjustment

One application of the foot pedal sets the automatic adjustment. No further adjustment of the brake is required during the full life of the brake lining.



Positive Contact Drum Seal

For applications where a sealed brake is required, the FSH is designed to incorporate a seal between the brake backing plate and brake drum.



TIMKEN
Detroit
BRAKES

TIMKEN DETROIT BRAKE DIVISION

ROCKWELL SPRING AND AXLE COMPANY

ASHTABULA, OHIO



(Advertisement)

Riveting With a Hammer in Blind or Open Applications

Elimination of special riveting tools can mean faster production, lower costs, no down time.

J. K. BARRY, M. E.

The use of blind rivets installed with only an ordinary hammer from one side of the job offers a highly simplified method of fastening. Speed, convenience and *low installed cost* make Drive Riveting preferable not only for blind joints, but for fastening many parts that can be reached from either side.

The Southco Drive Rivet has a cored, slotted body with a grooved pin pro-

truding from its head. When the rivet is inserted through parts to be fastened, the pin is driven flush with the rivet head causing the expanding prongs to form a blind head behind the rear sheet. No further finishing is necessary, since the pin seats itself permanently to complete the smooth head contour.

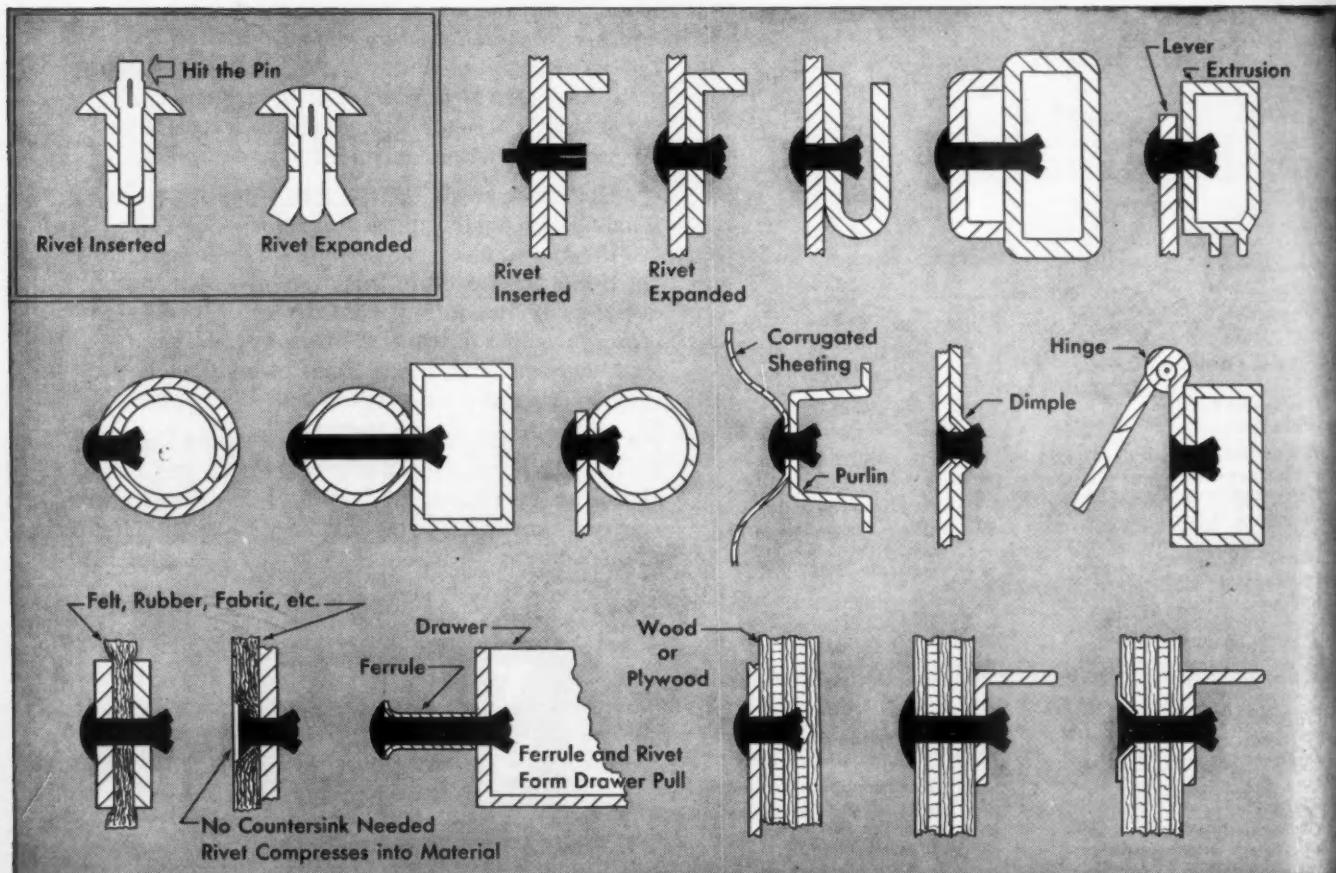
Drive Riveting has five major advantages:

1. No investment in special tooling.

2. No lost time for tool repairs.
3. No limitation on the number of men who can install rivets.
4. Speed comparable to nailing.
5. Only one man is needed.

Widely used in truck bodies, storm doors, metal buildings and hundreds of other industrial applications, Southco Drive Rivets make a secure, vibration-proof joint. A wide range of head styles, diameters and grip lengths is available.

RECOMMENDED APPLICATIONS FOR DRIVE RIVETING



SOUTHCO Division, South Chester Corporation, 228 Industrial Hwy., Lester, Pa.

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IT'S A matter of keeping your engines clean. *Texaco D 303 Motor Oil HD* is fully detergent and dispersive, and prevents power-stealing deposits. Thus rings stay free, assuring proper compression and full power combustion with less fuel consumption.

Texaco D 303 Motor Oil HD is especially made for heavy duty service in gasoline and diesel engines. Its particularly tough lubricating film is an effective guardian against wear. This means longer life for engine parts, lower maintenance costs for you.

For chassis lubrication, use *Texaco Marfak*. It stays in the bearings for longer

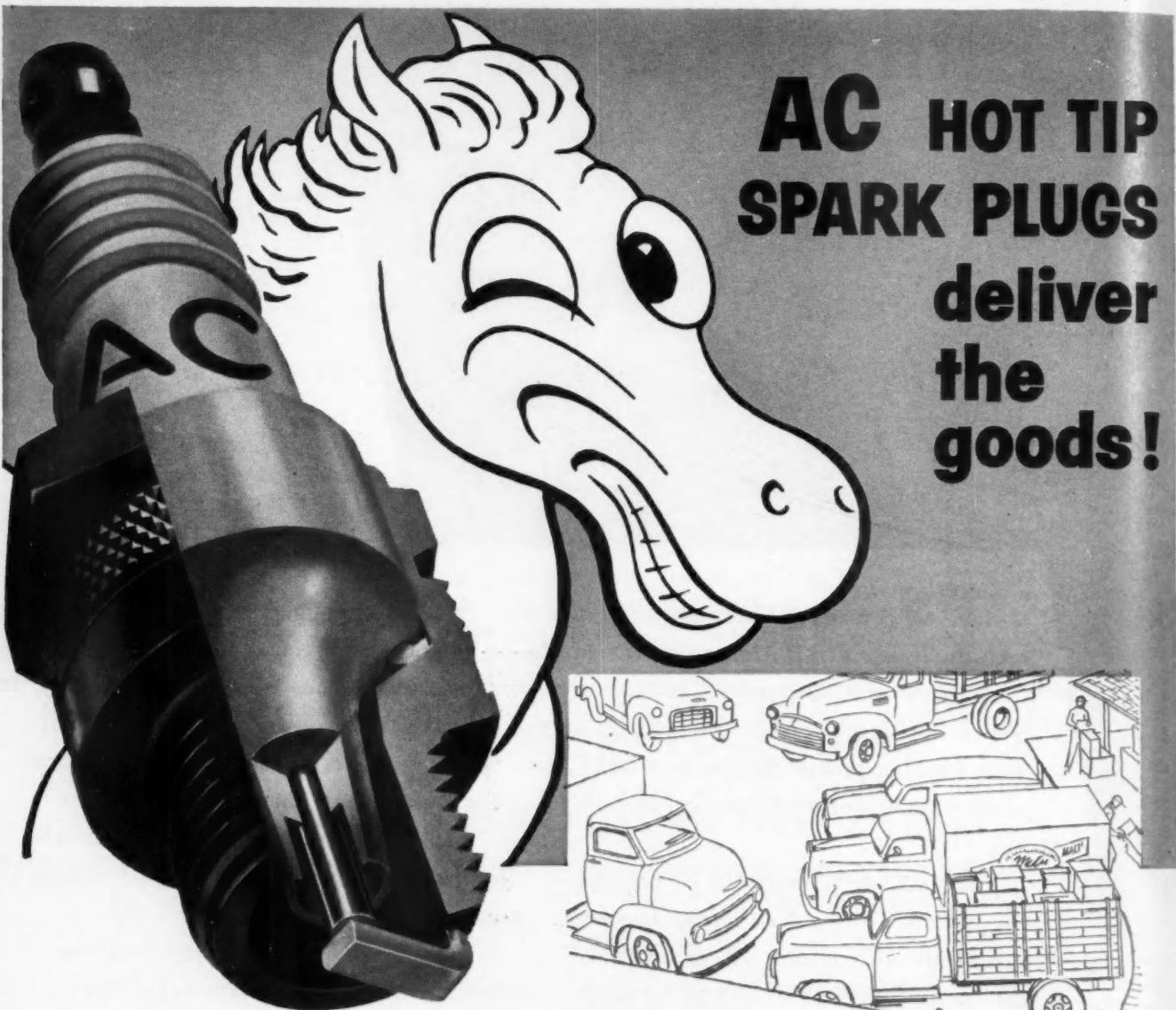
periods of rugged service, assuring protection against wear and rust. In wheel bearings, use *Texaco Marfak Heavy Duty*. It seals out dirt and moisture, seals itself in — assuring longer bearing life and safer braking. No seasonal change is required.

In transmissions and differentials, *Texaco Universal Gear Lubricant EP* assures smoother operation, longer gear life.

Let a Texaco Lubrication Engineer help you achieve more economical operation. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

Lubricants and Fuels FOR THE TRUCKING INDUSTRY



AC HOT TIP SPARK PLUGS deliver the goods!

● Pile on the loads! . . . AC keeps 'em rolling!

From heavyweight highway haulers to the smallest pickups — Hot Tip AC Spark Plugs deliver plenty of power for quick starts and smooth, dependable operation under all road and load conditions.

Our records show fleet owners from coast to coast are switching to "that Hot Tip kind of spark plugs" . . . AC Spark Plugs. The reason is what *their records show* . . . plus some good hard-headed common sense.

AC Hot Tips burn away carbon and oil deposits that foul ordinary plugs quickly in today's stop-and-go driving. That cuts service costs, cuts gas costs, cuts costs right down the line.

Why not switch to lively Hot Tip AC Spark Plugs now and start getting the most out of your fleet?



AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

STANDARD FACTORY EQUIPMENT ON MORE NEW VEHICLES THAN ANY OTHER MAKE



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In its effort
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Most fleet
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CHAMPION

COMMERCIAL C



YOU'RE BUYING MORE
HORSEPOWER
TODAY . . .

PUT IT TO WORK *with* CHAMPIONS!

In its efforts to cut operating costs and give better service to the public, the trucking industry has demanded more powerful and efficient engines. And the manufacturers have responded.

The rated horsepower of trucks has increased 25 per cent in the last six years. Dependable Champion Spark Plugs help you translate that new power into profit!

Products of the world's largest engineering and research laboratories devoted exclusively to spark plugs, full-firing Champions have been constantly improved to combat the effects of higher flame temperatures and combustion pressures . . . of higher operating speeds and greater acceleration.

Most fleet executives agree that a vehicle with Champions is a more profitable and more efficient piece of equipment.

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

DEPENDABLE

CHAMPION

SPARK PLUGS

COMMERCIAL CAR JOURNAL, August, 1955



Of the 4,132,604 passenger cars produced from Jan. 1 to May 14, 1955...almost half* were equipped with the **NEW**



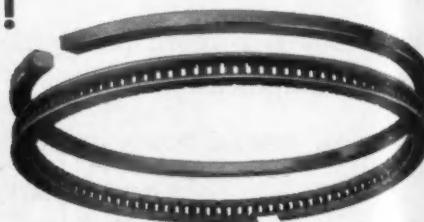
PERFECT CIRCLE
TYPE "98"
chrome oil ring

U. S. Patents 2,635,022
and 2,695,825

- Uniform pressure on entire circumference!
- Multiple tiny springs exert both side and radial pressure!
- Provides maximum oil drainage!
- Universal application...bottomless and conventional grooves...all depths.

**Better than any other oil ring for new high-compression,
high-vacuum overhead valve engines!**

PERFECT CIRCLE'S 2-in-1 Chrome Set with the new "98" Chrome Oil Ring is now available for replacement in popular later model cars. Will also be available for other models as soon as production permits.



Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario

*44.2% were Type 98 Chrome Oil Ring...55.8%
all other oil ring types combined, including other
Perfect Circle oil ring types.

Du Pont announcement to all fleet operators



Exclusive "ZEREX" Analyzer helps you CUT ANTI-FREEZE COSTS up to 50%

After years of research, Du Pont has developed a "Zerex" Anti-Freeze Analyzer Kit that you can use *right on the job*—to tell how much reserve alkalinity (protection against corrosion) remains in a used "Zerex" solution!

By telling you which solutions you can safely continue to use—and which ones should be replaced—the Analyzer can reduce your cooling-system maintenance expense and cut your anti-freeze costs as much as 50%.

The Analyzer can also become the core of a cost-cutting preventive maintenance program. By telling you which anti-freeze solutions are worn out and should be replaced with a fresh "Zerex" solution, the Analyzer

helps you prevent costly damage to the vital parts of the cooling system.

Just add these savings to those already possible by pre-mixing "Zerex" and you know why "Zerex" is your best anti-freeze buy—bar none! And remember, only "Zerex" can be safely analyzed on the job with Du Pont's exclusive Analyzer.

SPECIAL OFFER TO FLEET OPERATORS

We will demonstrate the cost-cutting features of the "Zerex" Analyzer—at no obligation. Just fill out and mail the coupon below.

E. I. du Pont de Nemours & Co. (Inc.)

CCJ

2494 Nemours Building, Wilmington 98, Delaware

I'd like a "Zerex" Analyzer "cost-cutting" demonstration!

Name _____

Firm _____

Number of Units in Fleet _____

Street Address _____

City & State _____

ZEREX
REG. U. S. PAT. OFF.
Anti-Rust ANTI-FREEZE

DUPONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

KEEP your d



YOUR CHOICE of brake lining can be the difference between accidents and safe stops

Brake lining that resists heat and moisture . . . and provides quick, smooth stopping power . . . often makes the difference between a deadly crash and a safe stop. Give your fleet the benefit of that extra margin of safety. Keep your drivers alive.

Choose safety-proven Wagner Brake Lining. You can get it and Wagner Lockheed Hydraulic Brake Parts and Fluid from one convenient, reliable source — your nearest Wagner Jobber. See him today!

You can depend upon WAGNER QUALITY because Wagner Products are used as original equipment by manufacturers of cars, trucks, buses, and trailers.

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1891

Wagner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID . . . Nokol . . . Calico BRAKE LINING . . . AIR BRAKES . . . TACHOGRAPHS . . . ELECTRIC MOTORS

*...the best known
name in brake service*

ur drivers alive

They depend on YOUR judgement as to the
brand of brake service products used

For safer brakes . . . reline with

WAGNER[®] BRAKE LINING

Yes, there are brake blocks and linings that cost less but are of questionable quality. They may save you pennies but could cost the lives of your drivers, innocent motorists or pedestrians . . . result in demolished vehicles, ruined cargo and damage suits.

Don't run that needless risk. Buy Wagner Brake Lining. There isn't a better or safer lining on the market — at any price. This high quality lining is ideal for the heavy duty service of modern over-the-road hauling. Its uniform frictional elements last the life of the lining despite high operating temperatures. It contains no harmful abrasive material to damage drums . . . will never compress, absorb moisture, or deteriorate with age. Lining wears slowly and evenly. Brakes require fewer adjustments.

Available in sets, blocks, rolls, slabs, cut segments and on shoes either bonded or riveted. There are more than 100 width and thickness combinations in inter-

nal rolls, external rolls, and block segments . . . over 400 individual sets . . . and over 350 block sizes. Coverage is complete for all vehicles.



Wagner Electric Corporation
6470 PLYMOUTH AVE., ST. LOUIS 14, MO., U.S.A.
(Branches in principal cities in U.S. and in Canada)
Please send me a free copy of Hydraulic Brake Service
Guide HU-411. I understand that there is no obligation.

NAME _____
FIRM NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____



B55-14



TRANSFORMERS . . . INDUSTRIAL BRAKES



"Cut my maintenance costs 60% and saving lots of gas besides"

*- reports Heinz N. Silz, Fort Morgan, Colo.,
grain hauler in telling about his moneysaving
experiences with GMC Replacement Engines*

HEINZ SILZ first installed a GMC engine in one of his trucks—not a GMC—on a you-show-me basis. Soon after, he made a GMC power-replacement in a second truck. Now he's planning it for a third.

"I was amazed at how much my costs dropped as soon as I put in that first GMC engine," said Silz. "That 60% maintenance saving sure made it easy to decide I wanted GMC replacements in my other rigs."

There have been important fuel savings as well. And they're especially impressive when you keep in mind that the trucks' original engines were

widely promoted for their standout economy.

"I figure I'm saving about 12 gallons of gas on each 400-mile trip," Silz reports. "I couldn't be more satisfied with the performance I've been getting since the conversions."

The GMC Replacement Engines he used, incidentally, are 155-h.p. "302's." They feature the most advanced short-stroke design. That minimizes friction—assuring fewer maintenance needs and standout fuel economy.

"Putting in those GMC engines was a simple job, too,"

OWNER HEINZ

Silz said either of power in What all GMC F almost a in all—improved l

And the GMC d

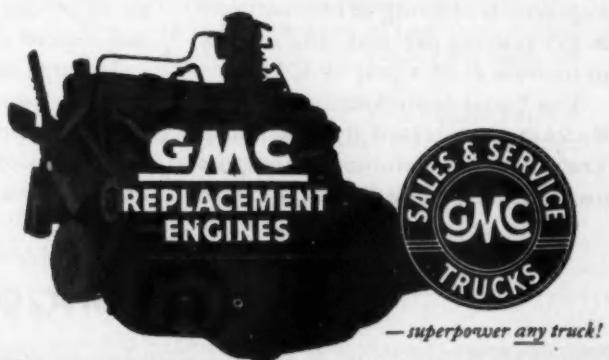


OWNER HEINZ N. SILZ (right), prominent Fort Morgan, Colorado, grain hauler, checks routing with driver.

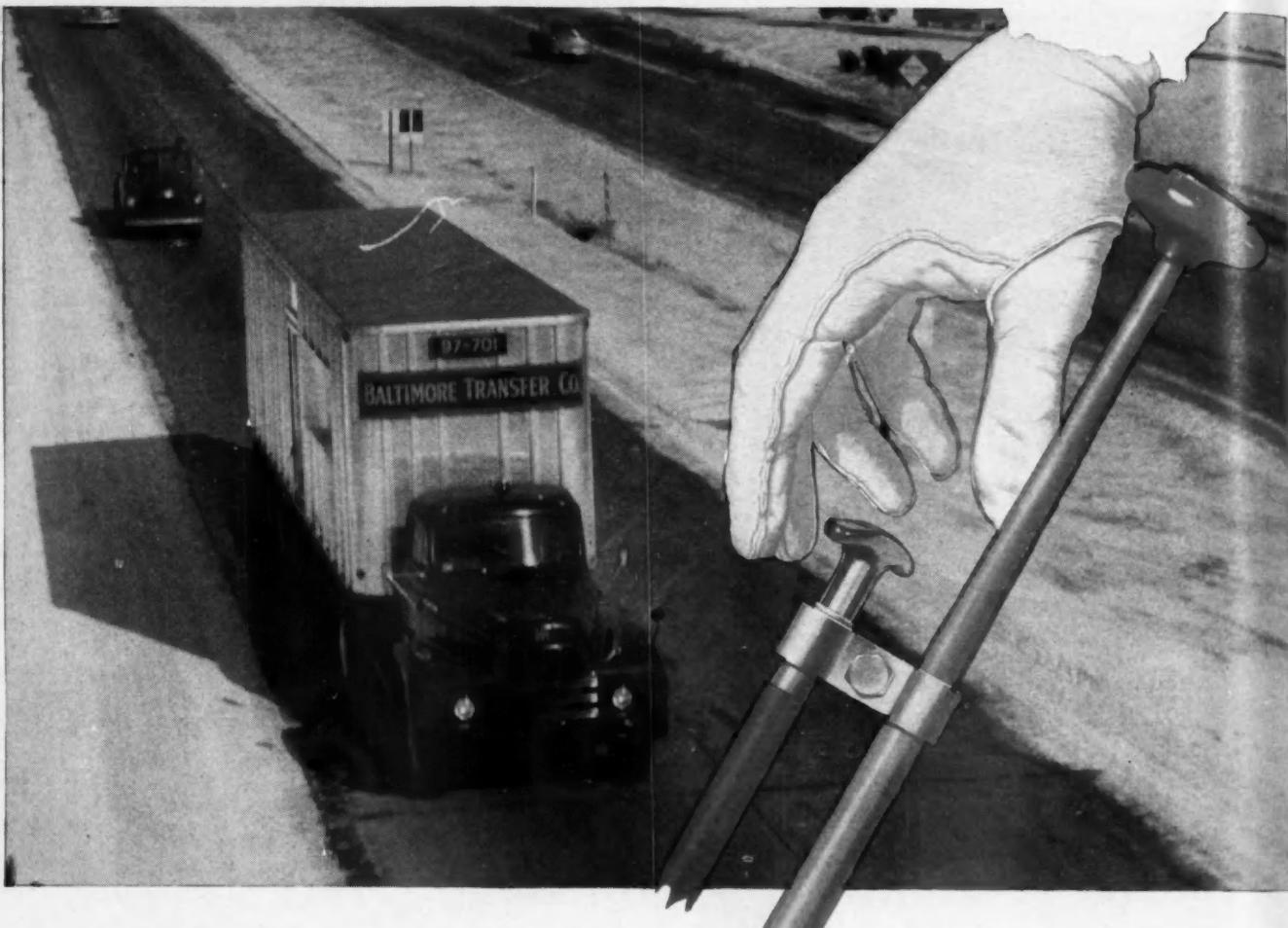
Silz said. "And I've never had a bit of trouble with either of them. Eventually, I'm going to have GMC power in all my trucks."

What about engine-weary trucks in your fleet? GMC Replacement Engines are engineered for almost any make or model. There are now 11 of them in all—including two great new V8's and two improved Diesels—blanketing the 130 to 230 h.p. range.

And they're available—*right now*—through your GMC dealer!



GMC Truck & Coach—A General Motors Division



ROADRANGER® provides annual fuel savings of \$126.36 per tractor

Up to 43% faster trip time and average fuel savings of \$126.36 per tractor annually were enough to convince Baltimore Transfer Company. They now specify Fuller R-45 Semi-Automatic ROADRANGER Transmissions for every new tractor purchased.

Baltimore Transfer and its wholly-owned subsidiary—Motor Freight Express—is ordering 48 International R-195 tractors per year, and expects to increase to 96 a year by 1957.

The Fuller Semi-Automatic ROADRANGER was tested by Baltimore Transfer on its own routes, under its own operating conditions, against

conventional 5-speed transmissions with 2-speed rear axles. Both transmissions were installed in identical International R-195's, with identical loads.

On a stretch between Baltimore and Blue Mountain, Pa. (22 miles, over hilly terrain) the ROADRANGER-equipped tractor came in 27 minutes ahead of the tractor with the main-and-2-speed axle combination.

Through single-lever control of all forward speeds—and with all ratios evenly and progressively spaced—the Fuller Semi-Automatic ROADRANGER lets the driver select the right ratios

really
where horsepower goes to work



FULLER MANUFACTURING COMPANY (Transmission Division), KALAMAZOO, MICHIGAN

Unit Drop Forge Div., Milwaukee 1, Wis. • Shuler Axle Co., Louisville, Ky. (Subsidiary) • Sales & Service, All Products, West. Dist. Branch, Oakland 6, Cal. and Southwest Dist. Office, Tulsa 3, Okla.

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RPM DELO
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Standard Engineer's Report

CASE HISTORY

PRODUCT RPM Delo Oils

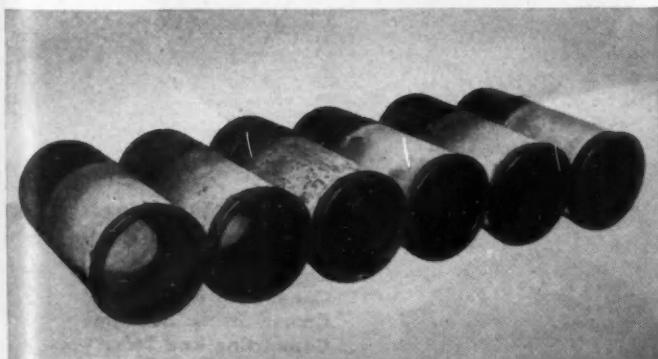
E.M.Tharp Trucking Co.,
FIRM Porterville, Calif.

Only 0.0015" sleeve wear in 170,000 miles!



RPM DELO SPECIAL LUBRICATING OIL, and drivers who are trained to avoid practices that shorten engine life, keep maintenance costs to a minimum in the 16 diesel and gasoline rigs owned by E. M. Tharp Trucking Co. Porterville, Calif. Engine in truck above, pulling out with a typical 24-ton load of cotton-seed, gives "good as new" performance after 140,000 miles without overhaul. Other engines give similar

service in spite of much hauling up 22 miles of constant grade on the Ridge Route to Los Angeles. Sleeves below, shown just as they came from one of the engines after 170,000 miles, have only 0.0015" wear! Owner E. M. Tharp says, "RPM DELO Oils keep our engines cleaner than any oil we've ever used. And bearings stay in such good condition that we often leave them in when we overhaul."



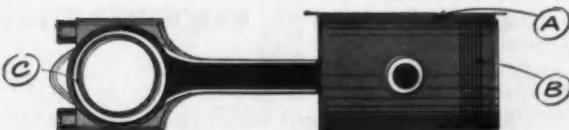
FREE FOLDER tells you about all the RPM DELO Oils and how they meet every heavy-duty engine condition. Write or ask for it today.

FOR MORE INFORMATION about petroleum products of any kind or the name of your nearest distributor, write or call any of the companies listed below.



TRADEMARK "RPM DELO" REG. U. S. PAT. OFF

How RPM DELO Oils reduce wear, corrosion, oxidation in all heavy-duty engines



- A. Contain special additives that provide metal-adhesion qualities...protect parts whether hot or cold, running or idle.
- B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean...helps prevent piston scuffing.
- C. Special compounds stop corrosion of any bearing metal and foaming in crankcase.

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20 • STANDARD OIL COMPANY OF TEXAS, El Paso
THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey • THE CALIFORNIA COMPANY, Denver 1, Colorado

**When you put
in new BEARINGS**

**make sure
the RODS
are right**

**Use Federal-Mogul
exchange insert rods
on every overhaul!**

Modern replacement bearings are engineered to restore engine performance. They do the job right!

But the rods must be right, too! Just one extra, invisible thousandth of out-of-roundness in the rod bore... and the best overhaul goes sour.

Make sure you're right! Exchange the rods on every overhaul. Federal-Mogul reconditioned rods have true, accurate bores—they're overhaul insurance! Ask your Federal-Mogul jobber!

FEDERAL-MOGUL SERVICE

Division Federal-Mogul Corporation
DETROIT 13, MICHIGAN



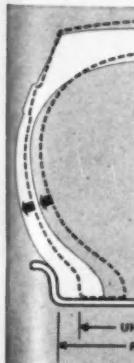
**The Complete Line—
More than 10,000 Items:**

Engine Bearings (Main, Connecting Rod and Camshaft) • Bushings
Connecting Rod Service—Exchange Insert Rods, Rebabbed Rods • Connecting Rod Bolts and Nuts
Shims and Shim Stock

Whatever your engine bearing needs may be, you will find the best answer in the red-and-black Federal-Mogul package.

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HOOD MILE KING CUTS TRUCK TIRE COSTS



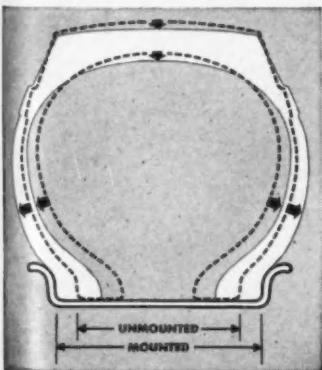
**100,000 Miles Common . . .
150,000 Miles Before
Recapping Reported**

THE new *Hood Mile King* is outstanding for extra mileage and positive traction. Its tough cord body defies breaks and ply separation. Here's a deep-tread highway traction tire that will not generate excessive heat at high speeds.

User reports of over 100,000 miles before recapping are common. In some cases, *Hood Mile King* tires have rolled over 150,000 miles without service of any kind (reports available upon request).

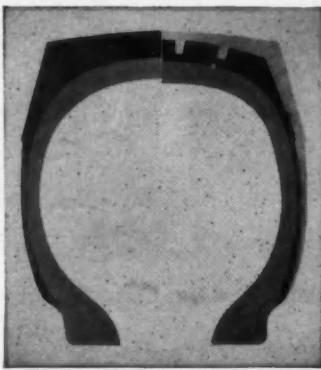
The *Mile King*, available in Rayon or Nylon, can help you cut truck tire costs. Do as other fleet operators have done. Install *Mile King* tires on the traction wheels of one or two of your trucks. Compare their performance against other traction tires in your fleet. You'll discover that the *Mile King* delivers lower cost per mile. See your *Hood* dealer for a special price on *Mile King* tires for comparison tests.

THESE FEATURES CUT TIRE COSTS!



NEW CONSTRUCTION PRINCIPLE

Beads are molded closer together than on conventional tires. When tire is inflated, air forces beads to full rim width. This flattens the tread and compresses the rubber. Compressed tread rubber is more resistant to abrasion. Flatter profile means more rubber on the road, better load distribution and slower, more even wear.



MORE RUBBER

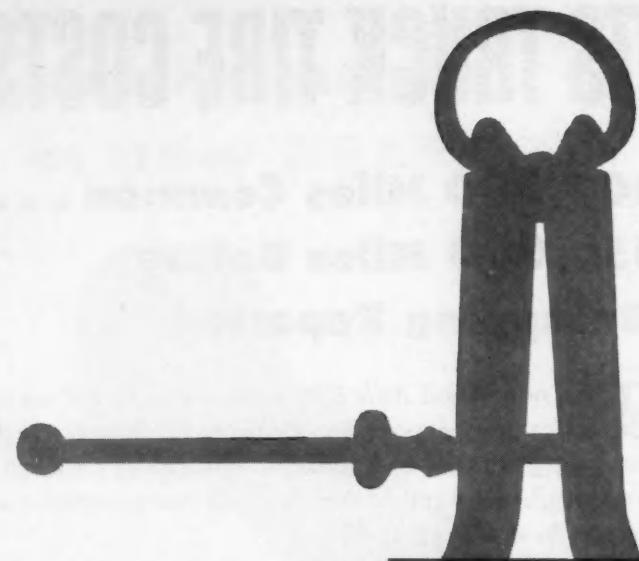
Tread is approximately 23% thicker than average conventional tires. This means extra mileage, lower cost per mile. Specially compounded tread rubber resists wear and runs cool. Open shoulders and well-ventilated tread allow tire to travel at sustained high speeds under heavy loads.



NEW KIND OF TREAD

Revolutionary *Mile King* tread has lateral bars close enough together to provide long, even wear, but far enough apart for better traction and exceptional cooling. Flat contour increases traction, gives more miles on traction wheels. 45° angle offsets in center of the tread give positive protection against skidding and side-slipping. Crack and cut growth are virtually eliminated.

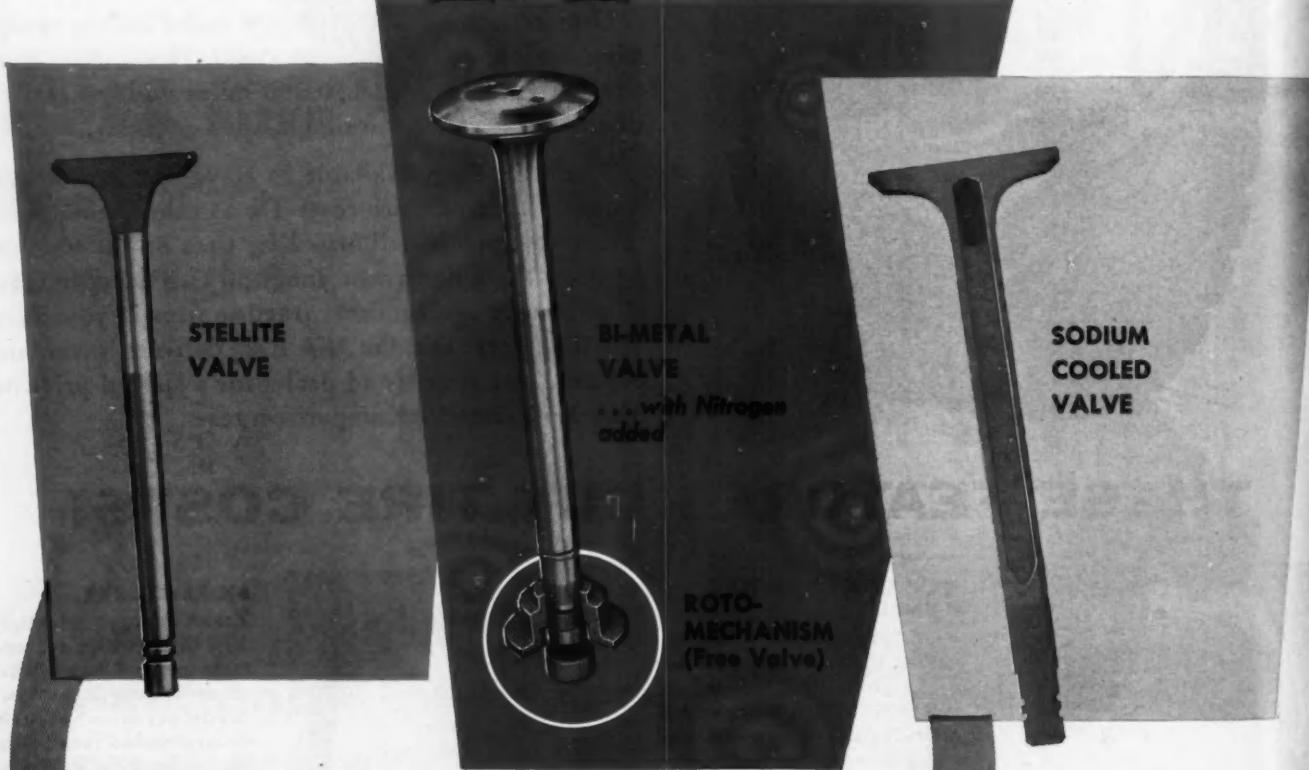




all **3** engineered
for longer valve life

PERMITE

original equipment **VALVES**



For every type of service there is a RIGHT Permite Valve,
engineered for top performance and long life.

Many of America's leading car and truck
manufacturers use Permite Valves as original equipment.

Leading truck fleet operators install them to keep
trucks rolling and maintenance costs down.

There is
a Permite Distributor
near you . . .

ALUMINUM INDUSTRIES, Inc.
CINCINNATI 25, OHIO



original equipment

Permit parts
the complete motor and chassis line

COMMERCIAL CAR JOURNAL, August, 1955

BALANCED

GRE

RAYBE
Fan B
Cover

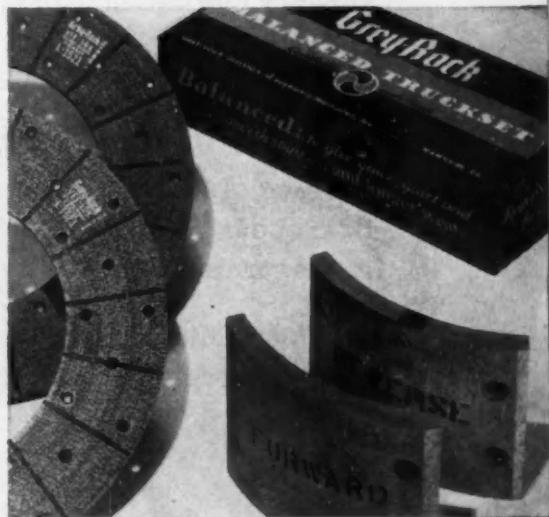
R
M

"Same trouble as before, Joe . . . the BLOCKS are SHOT!"



Sure you want to cut costs where you can. But look what happens when you try to save with cheap brake lining. You pay for more relines and more downtime—and often for unnecessary scored drums or drum replacement.

In the long run you'll save far more—in lower cost per mile—with Grey-Rock Balanced Brake Blocks and Linings for your fleet. For every make and model, Grey-Rock combines just the right friction materials to equalize wear of blocks—to maintain balance between shoes in the same wheel, between front and rear axles, and between tractor-trailer axles. Results: more miles between relines—avoidance of costly drum replacement—on-schedule operation—lower maintenance costs—all adding up to lower cost per mile. Ask your Grey-Rock jobber to show you the facts and figures now.



Best to STOP with... Because
they're best to START with

Only **Grey-Rock** makes

BALANCED BRAKSET LININGS

BALANCED BRAKSETS • TRUCKSETS • BRAKE BLOCKS • VEE-LOK® CLUTCH FACINGS

GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., Manheim, Pa.



RAYBESTOS-MANHATTAN, INC.: Brake Linings • Brake Blocks • Clutch Facings • Radiator Hose
Fan Belts • Industrial Rubber, Engineered Plastic, and Sintered Metal Products • Rubber
Covered Equipment • Asbestos Textiles • Packings • Abrasive and Diamond Wheels • Bowling Balls



Shop talk about lubrication . . . why Emery Transportation uses

STANOLUBE HD-M MOTOR OIL

WHAT does a truck outfit with nearly 300 truck tractors think about lubrication? Ray Schrader, Superintendent of Service for Emery Transportation Company and Midwest Transfer says: "Good lubrication plays an important part in getting more mileage out of the equipment." For this reason Emery and Midwest use STANOLUBE HD-M Motor Oil. Operating in a ten state area from Michigan to Kentucky and Pennsylvania to Iowa, these haulers experience a full range of weather and hauling conditions. Emery and Midwest find STANOLUBE HD-M stands up to the worst of these conditions and gives superior lubrication with plenty to spare.

STANOLUBE HD-M provides exceptional lubrication under "hot" engine driving conditions, prevents corrosion and reduces foaming. And in low temperature service, STANOLUBE HD-M controls sludge and eliminates varnish.

At Emery-Midwest, card records are kept on each piece of equipment to show dates

on which it has been serviced. These records are evidence enough of the job STANOLUBE HD-M Motor Oil is doing for them. In the middle west there is an experienced automotive engineer at each Standard Oil office. He can tell you more about STANOLUBE HD-M. Ask him. Or contact, Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

Ray Schrader (right) Emery Transportation Company Superintendent of Service and B. J. Toale, Standard Oil automotive engineer discuss fleet lubrication. Barney Toale has been helping firms like Emery lick lubrication problems for 18 years, the time he has been with Standard. With engineering training from the University of Wisconsin and the Standard Oil Automotive Engineering School Barney is well qualified for this work. Customers find this experience and training pay off for them.

Maintenance of equipment is an important part of Emery Transportation operations. Firm operates 282 tractors and 331 refrigerated trailers in ten states.



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EMERY

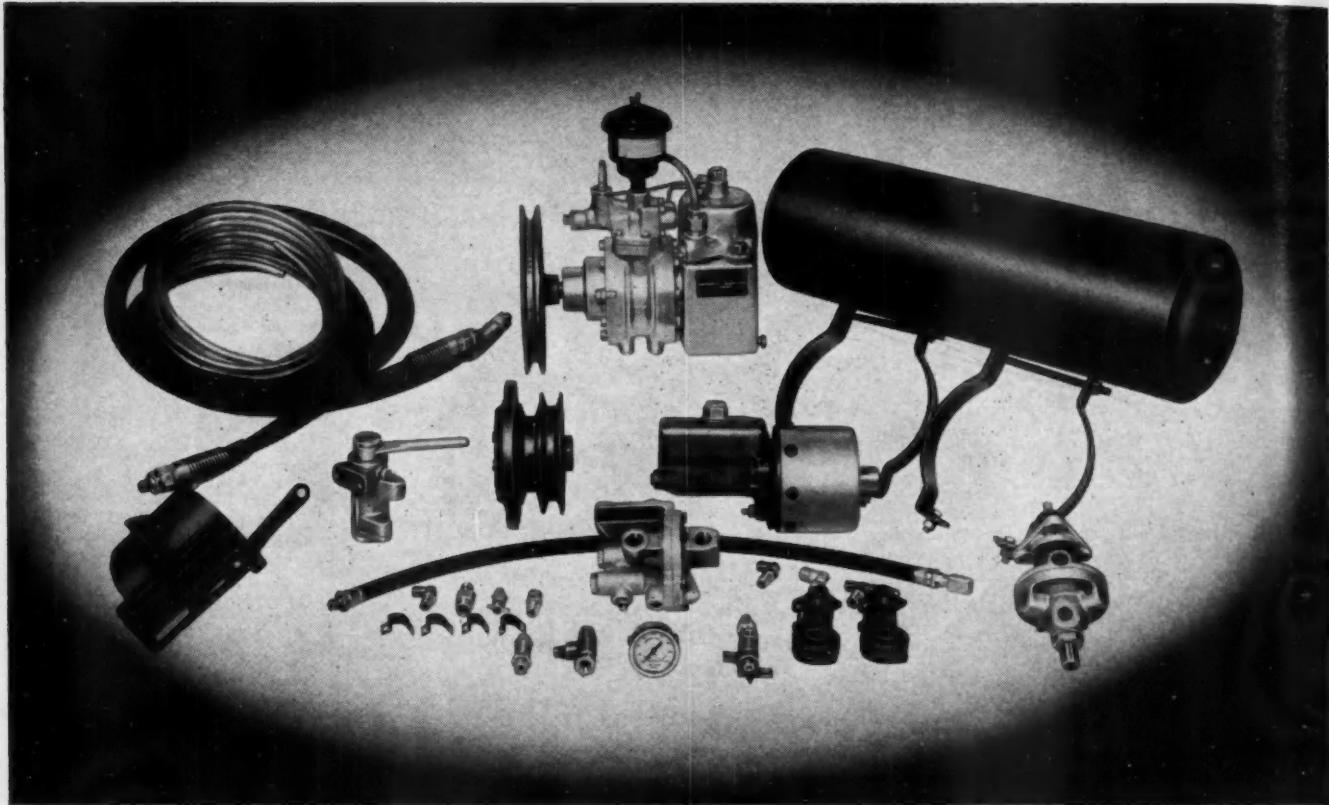
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STANDARD OIL COMPANY
(Indiana)



WAGNER AIR BRAKE KITS ARE FACTORY ENGINEERED



...make field installation easy...reduce air brake maintenance cost...increase road safety!

You can make every truck, tractor or bus you operate a safer vehicle by standardizing on WAGNER AIR BRAKES. Available in complete factory-engineered kits, WAGNER AIR BRAKES are easy to install, reduce air brake maintenance cost and increase road safety.

Each WAGNER AIR BRAKE KIT contains all parts, connections and brackets needed, as well as simple, easy-to-follow detailed installation instructions. Time and labor required are kept at a minimum. All parts fit easily into position with little or no drilling or tapping.

WAGNER AIR BRAKES require less maintenance. THE WAGNER ROTARY AIR COMPRESSOR provides uniform torque load and assures a sufficient

quantity of air at all times for safer, surer braking power. The Factory-Engineered WAGNER POWER CLUSTER provides up to 1500 p.s.i. hydraulic line pressure. It easily mounts on the frame in any location where it is convenient to service.

Change over your present fleet with WAGNER AIR BRAKE KITS—start taking advantage of the outstanding engineering achievements and cost-saving benefits that WAGNER AIR BRAKES provide.

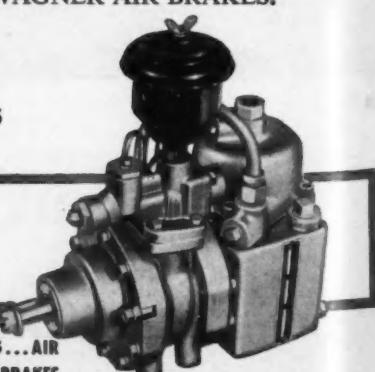
It will pay you to specify WAGNER AIR BRAKES when ordering new equipment. Send today for your free copy of Wagner Bulletin KU-201 . . . it gives full information about profitable WAGNER AIR BRAKES.

WAGNER AIR BRAKE USERS
ARE OUR BIGGEST BOOSTERS



Wagner Electric Corporation
6470 PLYMOUTH AVENUE • ST. LOUIS 14, MO., U. S. A.
(Branches in Principal Cities in U. S. and in Canada)

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID... NeRel... CoMoX BRAKE LINING... AIR BRAKES... TACHOGRAPH... ELECTRIC MOTORS... TRANSFORMERS... INDUSTRIAL BRAKES



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TAPERED
TRADE-M

COMMERCIAL

Accurate to a ten-thousandth of an inch



(Another reason why
TIMKEN® bearings are first choice
with truck manufacturers)

HER job is near-perfection. She uses this machine to measure bore size and roundness of Timken® bearings in ten-thousandths of an inch. Cones are then sorted into sub-sizes by outer diameter and matched with rollers that have also been sub-sized. This precision manufacture results in longer life and less maintenance. It's one of the many extra steps we take that insure the quality of Timken bearings.

Only Timken bearings give you all these advantages: (1) advanced design, (2) precision manufacture, (3) rigidly controlled quality, (4) made from special analysis Timken steels (we're the only U. S. bearing manufacturer to make its own steel).

To get these advantages, make sure your replacement bearings have the trade-mark "Timken". For more information, send for free booklet, "Timken Tapered Roller Bearings—Their Care and Maintenance". Write Dept. JCC-2, The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

SINCE THEY'RE BEST WHEN THE TRUCK IS NEW, THEY'RE BEST FOR REPLACEMENT, TOO!

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS



NOT JUST A BALL □ NOT JUST A ROLLER □ THE TIMKEN TAPERED ROLLER □

BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

Let WHITE Show YOU How to get a Better Return on Your Transportation Investment

LOOK INTO the exclusive advantages of the White 3000 for your truck needs.

You'll find—like leaders in every business from coast to coast—that there are exclusive advantages that mean real savings.

You'll get new efficiency and truck economy that pay off two ways: Now and for years to come, because Whites are quality engineered to your

modern operating needs.

You've seen the White 3000 practically everywhere, carrying the names of leaders in every kind of business . . . boosting deliveries, boosting sales, reducing delivery costs.

Why don't you join the list? Look into the amazing advantages of the White 3000. It will pay off—for years!

THE WHITE MOTOR COMPANY • Cleveland 1, Ohio

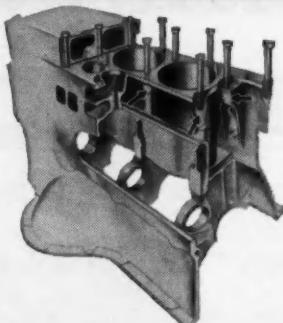
THE WHITE MOTOR COMPANY OF CANADA LIMITED—TORONTO

For More Than 50 Years The Greatest Name In Trucks



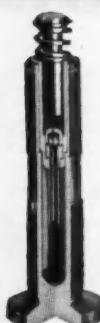
Every WHITE Feature . . . Every WHITE Part . . .

Is Qua



PILLAR BLOCK CONSTRUCTION

"Pillar block" method gives White blocks rigid construction. The blocks are cast of chrome-nickel alloy cast iron, with pillars of metal extending from top of block to crankcase and providing "pillar" into which the cylinder head bolts are fastened. Eliminates cylinder block and cylinder head distortion.

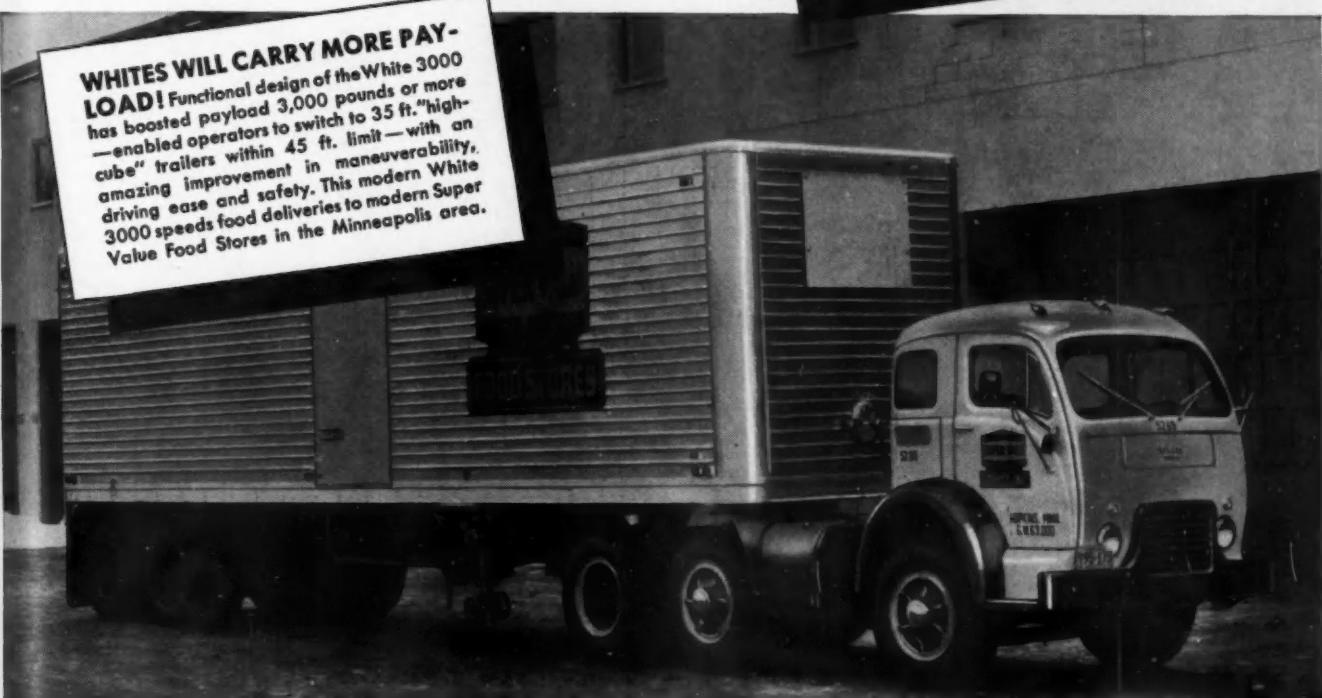


HYDRAULIC VALVE LIFTERS

White valves never need adjustment! Engines not equipped with hydraulic valve lifters require frequent adjusting . . . add substantially to maintenance costs over the life of the engine.



WHITES WILL OPERATE AT LOWER COST PER MILE! The White 3000 with its new efficiency and modern design has substantially reduced pick-up cost per cwt. and per mile. Typical of the modern milk tankers in this service is this one owned by Greenwood Dairies, Langhorne, Pa.

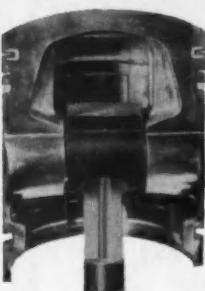


Is Quality Engineered for Lower Cost, Longer Life



STELLITE-FACED SODIUM-COOLED EXHAUST VALVES AND STELLITE-FACED VALVE SEAT INSERTS

White valves cool faster, last longer! Hard, durable stellite is used to face White valves and valve seats to guard against burning away and destroying the valve seat in engine block... White valves are filled with a sodium compound which assists in the transfer of heat.



PISTONS WITH NI-RESIST INSERTS

Longer piston, piston ring and cylinder wall life! White pistons are cam-ground to assure proper fit in the cylinder bore under varying engine temperatures. They are made with hard-surfaced metal ni-resist insert placed in the body of the piston at the top piston ring groove. Prevents ring lapping and enlarging of the groove because dirt can't become imbedded.

1,400 crash landing



INTERNATIONAL TRU

International Harvester Builds McCORMICK® Farm Equipment and FARMALL® Tractors... Motor Trucks... Industrial Power... Refrigerators and Freezers
Top TV comedy! Ronald Colman and Benita Hume in "The Halls of Ivy," CBS-TV. See your paper for date, time and channel.

ndings a minute...

to save you the BIG money

Here's a beating your truck will never have to take. This INTERNATIONAL Truck is pounding over the Belgian Block course — a torture track so bumpy that, at only 12 miles per hour, the wheels slam up and down 1,400 times a minute. It is so rugged that a new driver takes over after each 20 miles of the 400-mile test.

We torture INTERNATIONAL Trucks this way to be sure that the sheet metal, cabs, springs, and all running parts will stand up *longer* under the worst kind of punishment. So that our trucks will have utmost roadability, minimum wheel fight, maximum comfort. It's all a part of INTERNATIONAL *all-truck* engineering and design to save you the BIG money — the operating and upkeep money.

INTERNATIONAL engineers are never called on to adapt passenger car engines

or components to truck use. As a result, every INTERNATIONAL is built with extra margins of strength to save you the BIG money in the long run.

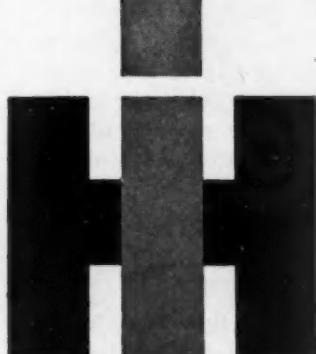
Proof of these savings comes from the cost records of operators who have made INTERNATIONAL the heavy-duty sales leader for 23 straight years. And the same engineering that piled up this record stands solidly behind *every* INTERNATIONAL model.

Yet with this extra value, INTERNATIONAL Trucks are often priced as low, and sometimes lower than comparable models of other makes. Before you buy any truck, let your INTERNATIONAL Dealer show you the right INTERNATIONAL for you — *all-truck built to save you the BIG money!*

INTERNATIONAL HARVESTER COMPANY • CHICAGO



You save the **BIG** money in highway hauling with all-truck built INTERNATIONALS. 27 conventional and COE 4- and 6-wheel ROAD-LINER® models from 29,000 to 76,800 lbs. GCW. Axle and transmission ratios for every need. Famous Comfo-Vision cabs.



**All-Truck Built
to save you
the BIG money!**

IAL
TRUCKS

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and channel
ust, 1955

COMMERCIAL CAR JOURNAL, August, 1955

We tried every known fiber, invented new processes, spent millions to develop fabulous

3-T Cord

Greatest truck tire advance in a generation ends major cause of premature tire failure—increases useful tire life up to 30 percent!

AT the big Goodyear Research Labs, we were battling, night and day, with a problem that stumped the whole truck tire industry.

Premature failures were shortening the lives of truck tires running on high-speed highway hauls!

At the first sign of trouble, we'd rushed scores of those tires—all makes—into our labs. We cut 'em up, X-rayed them, microscopically studied every inch of their "innards" and finally tracked down the cause—"CORD FEVER!"

WHAT CORD FEVER IS— AND HOW IT SHORTENS TIRE LIFE:

In every ply of a modern truck tire, there are thousands of separate Rayon or Nylon cords, each twisted from many fibers. For perfect performance, each cord, each fiber should be equal in strength and tension—to carry its equal share of the load.

But no one had been able to get the same tension on every cord! In every ply, there were unequally loaded or "loafer" cords that robbed tires of full strength. Under yesterday's

truckling conditions, this didn't matter—but with today's superhighways, fast-mounting loads and long nonstop runs, *strange things were happening!*

Such prolonged heat and highway pound make "loafer" cords actually *squirm*, deep down inside the tire! They fight the well-tensed "worker" cords—friction and FEVER mount, little troubles become bigger ones—and tire life is often shortened before full mileage is run.

That was the problem that stumped the industry. But we at Goodyear had our orders—"Lick CORD FEVER" regardless of cost!"

SO WE WENT TO WORK—

We subjected Rayon and Nylon to every possible new method of twisting and tensing—called on the textile industry for their newest miracle fibers—but CORD FEVER still defied us! Then—some of our engineers came up with a challenging idea:

WHY NOT TEMPER CORD— LIKE STEEL?

If we could temper Rayon and Nylon cord, as steel is tempered, ALL fibers

might be made to tense equally, "loafer" cords would become "workers"—and so end CORD FEVER!

And then began our search for a way to do it! Rayon and Nylon were treated at every practical tension, at every practical temperature, for every feasible period of time—AND AT LAST WE HAD IT!

The one right combination of Tension, Temperature and Time controlled cords at their point of greatest strength and durability! We'd made *workers* out of *loafers*—and CORD FEVER was licked!

WE CALLED THIS NEW TIRE-SAVER 3-T CORD—

or Triple-Tempered Cord, after the unique combination of Tension, Temperature, and Time which only Goodyear knew. *There is no other cord on earth quite like it!*

So in 1953, we invested millions, building 3-T Cord Processors to turn out the hundreds of thousands of yards we'd need *each day*—and early in 1954, out went Goodyear's new 3-T Cord truck tires.

We waited to be users—America say.

HERE'S WHAT AFTER OF PERSON

Excess stretch, fission—virtually
Bruise breaks, hitherto things of the
Up to 30% longer
far fewer road
cost-per-mile!

Would you like
YOUR truck ti
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Goodyear tires
they cost no m
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cord! There's
from enjoying
RIGHT NOW!

Dept., Akron 1
and Specifi
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MORE TONS



We waited to hear what the actual users — America's truckers — would say.

**HERE'S WHAT TRUCKERS SAY —
AFTER 19 MONTHS
OF PERSONAL EXPERIENCE:**

Excess stretch, flex failure, ply separation — virtually eliminated!

Bruise breaks, heat blowouts — practically things of the past!

Up to 30% longer mileage and more re-taps—because bodies last longer!

Far fewer road delays — far lower tire-cost-per-mile!

Would you like to say the same about YOUR truck tires?

Then remember that ONLY Goodyear tires have 3-T Cord — yet they cost no more than others built with untempered Rayon or Nylon cord! There's nothing to stop you from enjoying their extra savings RIGHT NOW! Goodyear, Truck Tire Dept., Akron 16, Ohio.

Buy and Specify

GOOD YEAR

Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND

The Long-Lived
Highway Truck Tire
TRACTION HI-MILER
built with
3-T NYLON OR RAYON CORD



3-T CORD

is now used in all Goodyear truck, passenger car, airplane, motorcycle and industrial tires — both conventional and tubeless—to give you extra safety, extra wear, extra value. 3-T Nylon is used in all premium tires, 3-T Rayon in standard tires.



Look for this sign; there's a Goodyear dealer near you.

Now...get all the advantages of

Quick Clutch



Every Lipe Factory Exchange Unit is built of the same quality materials—to the same precise tolerances—tested to the same exacting specifications—as a new clutch. As such it carries Lipe's Seal of Protection—your guarantee of genuine Lipe parts and craftsmanship.

Replacement with *Lipe* FACTORY EXCHANGE UNITS

Cuts costs 4 ways



DOWNTIME No long lay-ups for clutch repairs — trucks are out of the shop and on the road faster.



TOOL INVESTMENT No expensive clutch rebuilding equipment to buy — none to maintain.



LABOR No costly time spent on clutch disassembly, inspection, parts replacement, assembly and testing.



TRUCK DEPRECIATION No chance of an unbalanced clutch causing excessive vibration, wear and tear of vital gears, drive shaft and bearings.

Lipe's Factory Exchange Plan Makes Dollars and Sense

Next time you need a clutch repair job, install a Lipe Factory Exchange Unit instead. Then check your savings in overhead alone. Conservative estimates show that you should *reduce your clutch repair bills up to 25%!*

That's a hefty saving no matter how large or small your fleet is. See for yourself. Next time order a Factory Exchange Unit from your authorized Lipe distributor.

Authorized Lipe Service Stations are located from coast to coast. For quick service on genuine Lipe parts and exchange units, look for this ad in the classified section of telephone directories in principal cities.



Lipe - ROLLWAY CORPORATION

Manufacturers of Automotive Clutches and Machine Tools

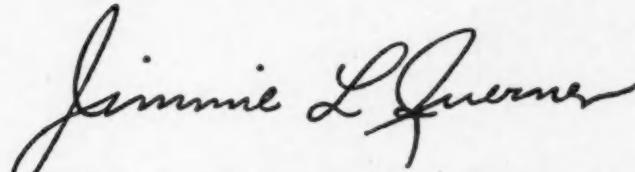
Syracuse 1, N. Y.





"Auto-Lite STA-FUL Batteries play a big part in maintaining our fast, tight schedules. We specify them for our entire fleet of 75 big tractors and refrigerated trailers," states Mr. J. L. Querner, owner of the J. L. Querner Truck Lines of San Antonio, Texas. "We specialize in transporting fresh fruits, vegetables and sea foods from the Southwest to all sections of the United States. To protect their valued freshness, our cargoes must be delivered in a minimum of time en route. We have found STA-FUL to be the most dependable and economical battery we have ever used. That's why you'll find them used on all of our rigs.

"My advice to every fleet operator, interested in great battery performance, is get STA-FUL! Even under the toughest conditions, Auto-Lite STA-FUL Batteries deliver the goods day after day."



Mr. J. L. Querner, owner of the J. L. Querner Truck Lines,
San Antonio, Texas. Mr. Querner rates big game hunting as his favorite sport.

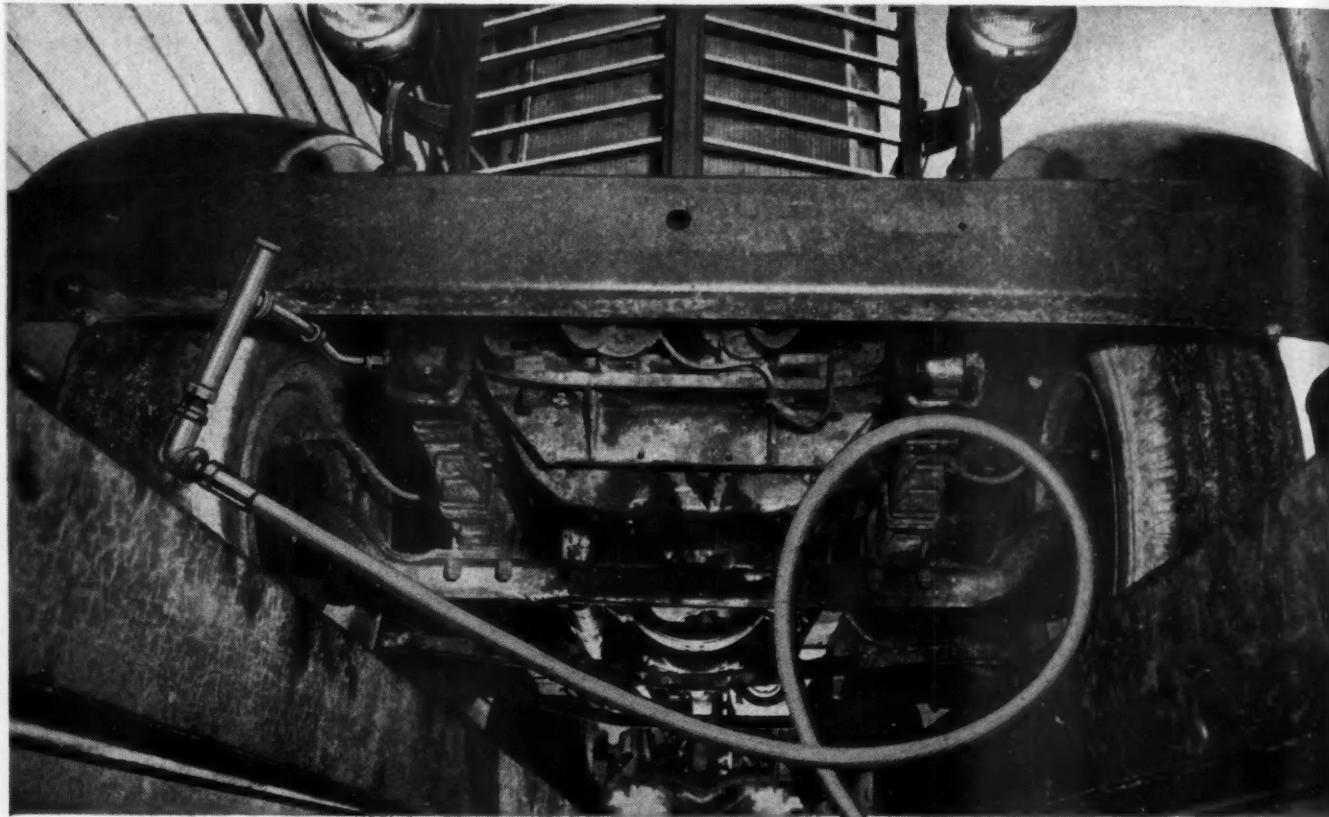


You're always right
with Auto-Lite

AUTO-LITE

BATTERIES

Won't Wash Away!



Sinclair LITHOLINE® Multi-Purpose Grease stays put where other greases wash away. That's why, when you switch to this superior grease, you can expect much longer life from king pins, spring shackles, and universal joints.

Important, too — facts prove LITHOLINE lasts longer. In the case of one large fleet operator, distance between grease jobs was increased from 1,500 to 2,500 miles! Moreover, because Sinclair LITHOLINE is a *Multi-Purpose Grease*, it eliminates a large grease inventory — this one grease does the job of many.

A Sinclair Lubrication Engineer can show you how Sinclair LITHOLINE Multi-Purpose Grease can help you get the most out of your equipment. Phone your local Sinclair Representative or write Sinclair Refining Company, 600 Fifth Avenue, New York 20, N.Y. *There's no obligation.*



SINCLAIR LITHOLINE Multi-Purpose Grease

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Norwalk, O
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Mile-Master

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Bonus Mile
"Hi-T" tens
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W. L. Mead (left) and D. E. Armbruster, Cooper representative, check the Bonus Mileage tread now available with the regular-priced Cooper Mile-Master.

Cooper Mile-Masters give W. L. Mead savings equal to 1.18% of gross revenue

W. L. Mead operates 150 units which haul anything that can be trucked from Norwalk, Ohio to Boston, Mass. The distances are long, speeds are consistently high, the route is one of the country's toughest. A saving equal to 1.18% of gross revenue for W. L. Mead is all the more remarkable because this record was made with regular-priced Cooper Mile-Masters.

Shock-Guard stops trouble

There are three important reasons for the Cooper Mile-Master's premium performance at regular low prices: (1) Bonus Mileage tread. (2) New Cooper "Hi-T" tension set rayon cord which is up to $\frac{1}{3}$ stronger. (3) New Cooper Shock-Guard construction. With Cooper's Shock-Guard construction (a) full width breakers extend beyond the shoulder areas, far down the sides (b) ex-

tra layers of resilient cushioning rubber are compactly built between the top several plies. This gives more uniform strength and cushioning in the life zones—directly under the tread, at the shoulders, at the sides. Damaging impact blows are uniformly distributed over a wider cushioning area, as compared to ordinary truck tires.

The new Cooper Shock-Guard gives a much stronger defense against bruise-breaks, blowouts, ply separation, high-heat flexing, excessive growth. Many users report mileage increases up to 45%, plus 4 to 5 safe recaps.

Nylon types also available

The regular-priced Cooper Mile-Master with Shock-Guard construction cuts costs whether used for free rolling or drive wheel service. However, Nylon

types are available for those exceptional cases where *extremely severe* operating conditions exist. Lower costs and increased profits are as near as your Cooper truck tire dealer. Call him soon, or write us direct for full details. The Cooper Tire & Rubber Company, Factories at Findlay, Ohio.



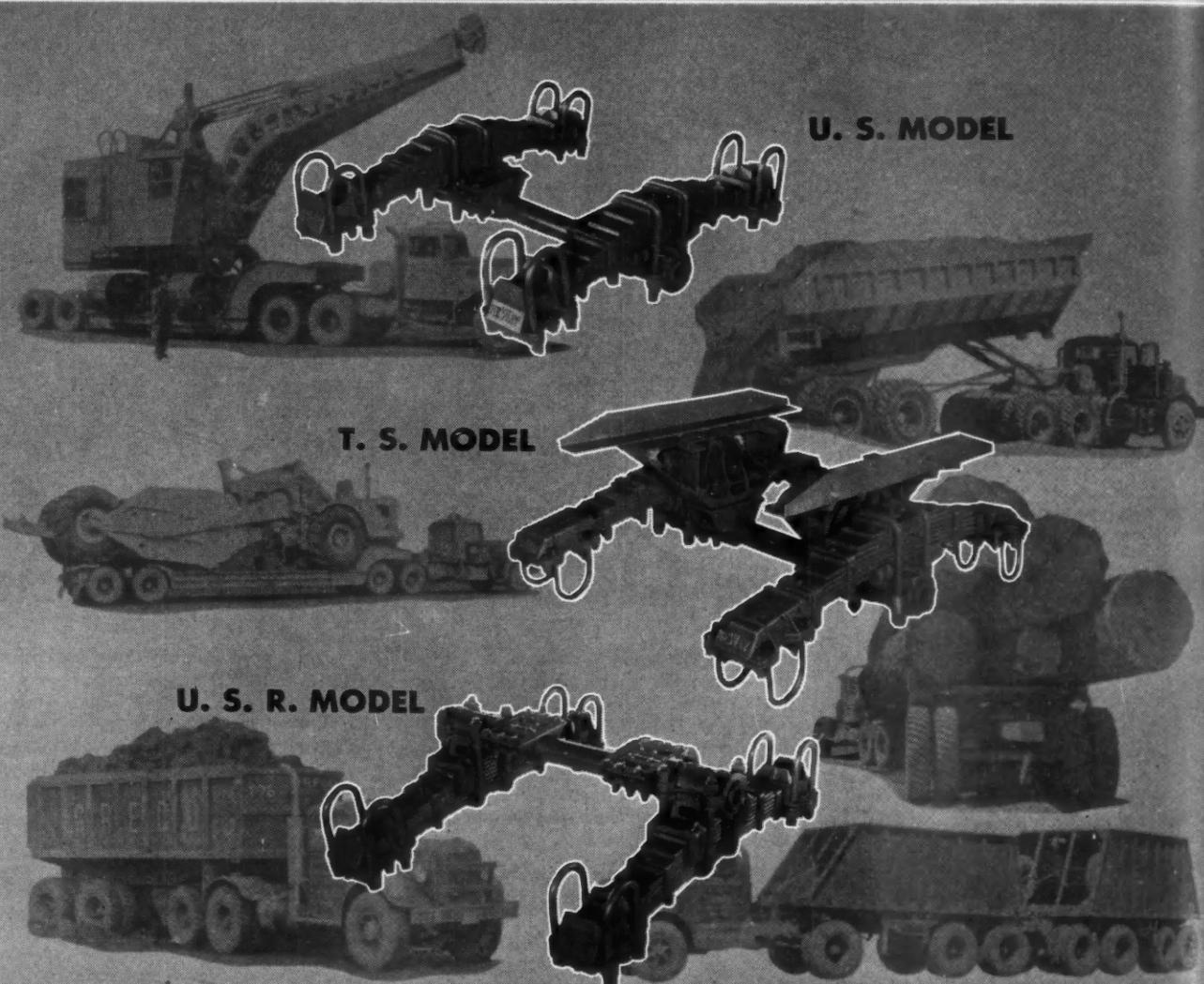
W. L. Mead pictured beside one of his tractor-trailer units equipped with Cooper Mile-Masters. He reports premium performance and savings at regular truck tire prices.

Cooper Tires

miles
ahead

Specify **NEWAY** Suspensions FOR HEAVY - RUGGED DUTY

No lubrication!! with **NEWAY**



CONTROLLED DEFLECTION

• **LOAD STABILITY**

STANDARD MODELS AVAILABLE IN 34,000# TO 46,000# CAPACITY — SPECIAL MODELS ENGINEERED AND MANUFACTURED TO CUSTOMER SPECIFICATIONS

NEWAY[®]

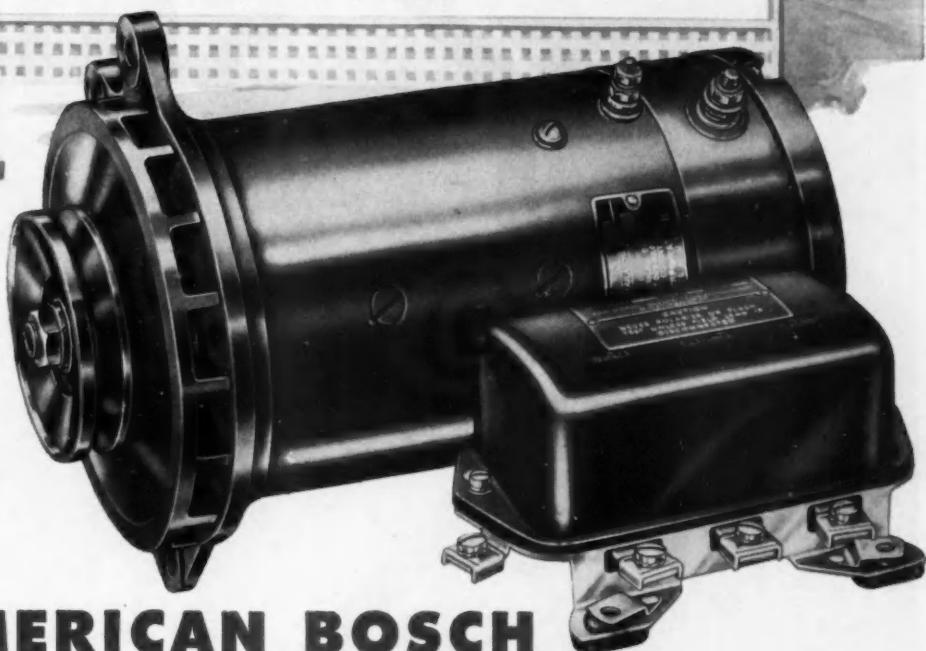
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MUSKEGON, MICHIGAN

OF SUSPENSIONS FOR TRAILERS • TRUCKS • SPECIALIZED EQUIPMENT

**NO AC or DC GENERATOR
OUTPERFORMS THIS
LOW COST-HIGH OUTPUT
DC SYSTEM**



**60 AMP.
2 UNIT**

**AMERICAN BOSCH
SPECIAL SERVICE GENERATOR SYSTEM**

- PROVED IN THOUSANDS OF INSTALLATIONS
- ONLY TWO SMALL UNITS TO BUY
- EASY TO INSTALL AND SERVICE
- AMPLE OUTPUT FOR EXTRA ELECTRICAL LOADS
- MUCH LESS BATTERY EXPENSE & BELT WEAR

Put a stop to high maintenance costs caused by extra electrical loads that run down batteries. The low-cost American Bosch Special Service Generator System is the answer . . . its remarkable dependability has been demonstrated in countless hundreds of thousands of miles of service for many fleet owners. It requires little driving power and does not reduce top engine speed. It gives you the powerful support that keeps batteries fully charged despite the drain of 2-way radio, extra electrical accessories, frequent idling, or stop-and-go operation.

The GRC Special Service Generator is only 5" in diameter. The famous

RGR two-stage Voltage Regulator assures positive protection against runaway voltage. Only 2 small units to install and service. The GRC cuts costs in many ways . . . saves installation expense, batteries, belts and maintenance, and gives you more trouble-free miles of service from your fleet vehicles.

• • •
Write for 20-page booklet #3595 for the complete story on the GRC Generator System. Models available in 6 volts 60 amps., 12 volts 30 amps., 12 volts 50 amps. American Bosch, Springfield 7, Mass. A Division of American Bosch Arma Corporation.

AMERICAN BOSCH



Automotive and Aviation Magnets



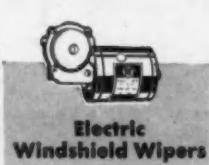
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Components for Aircraft Engines



Small Electric Motors



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Diesel Fuel Injection Equipment



**Avoid breakdowns with
the help of Socony Mobil's
simplified P. M. System...it's
the talk of the industry!**



CORRECT LUBRICATION FOR FLEET OPERATORS

THE FLYING RED HORSE COMPANIES: SOCONY MOBIL CO., INC., MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

Now — thanks to Socony Mobil's new Preventive Maintenance System — you can practically eliminate breakdowns due to improper lubrication maintenance!

You work with only three things — work sheet, record folder, control blackboard. We supply work sheets and record folders — show you how to set up the entire system. There's minimum paper work — no confusion. *Each unit is always under control.*

This system also includes analysis of your fleet conditions, help in setting up lubrication schedules and inspection periods, lubrication engineering service when necessary.

Use this exclusive P. M. system — and our top-quality oils and greases — to help keep your fleet rolling!

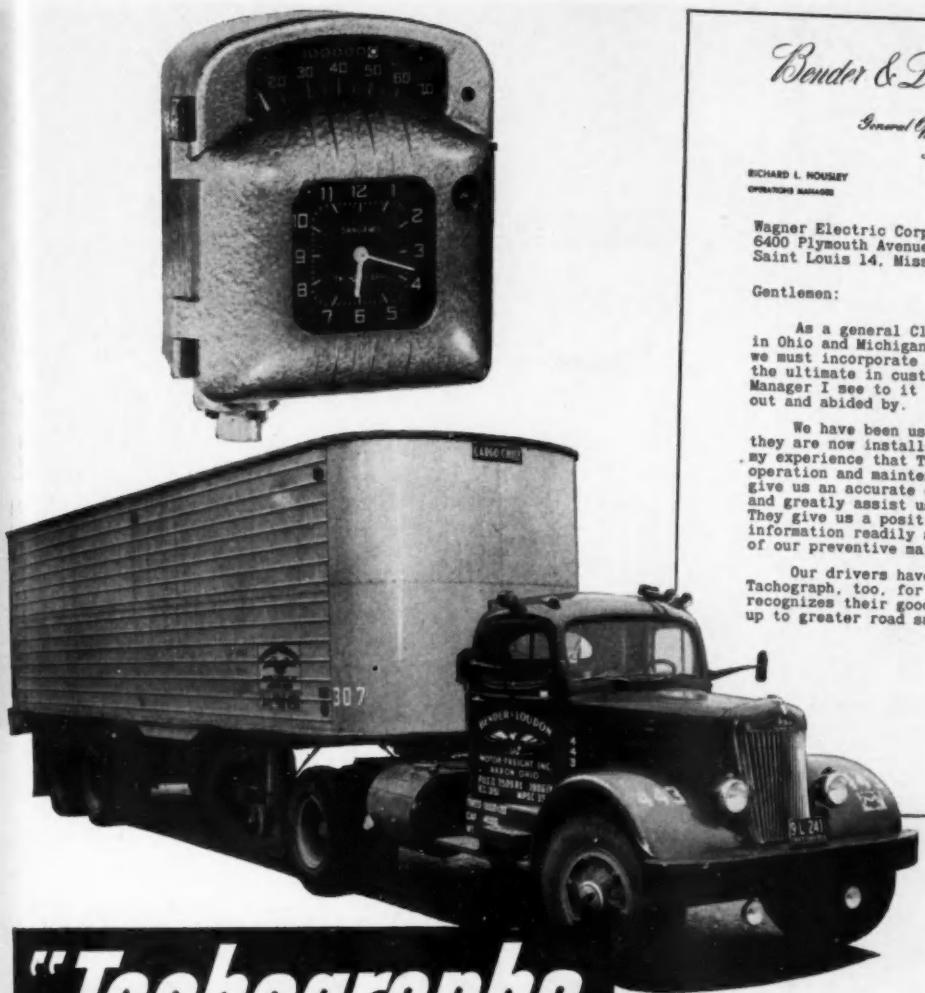
*says: R.
BENDER

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LOCKHEED HYDRA

COMMERCIAL



"Tachographs are essential to our operation and maintenance control program"*

*says: RICHARD L. HOUSLEY, Ass't. Sec'y. and Operations Mgr.
BENDER & LOUDON MOTOR FREIGHT, Inc., Akron, Ohio

It is a matter of record. Conscientious fleet operators, like Mr. Housley of Bender & Loudon, are relying on TACHOGRAPHS for the information they need for smoother, more efficient operations. They have been quick to interpret the TACHOGRAPH Charts into more profitable hauling, greater road safety through better driving, and controlled preventive maintenance.

Regardless of your type of hauling operation, you may gain the time-tested, road-proven advantages of TACHOGRAPHS. Each day, or before every run, a wax-coated chart is easily inserted into the durable aluminum case. The Tachograph mechanism automatically and accurately records vital operations information on this chart. You can tell:

- When engine started
- How fast it traveled
- How long it idled
- When it stopped—and for how long
- When vehicle was in motion

TACHOGRAPHS may easily be installed in every tractor you operate. They mount conveniently on the dash and connect directly to the speedometer cable. Visual indicating dials show the driver the time of day, speed and mileage. A red signal light flashes on to warn when a predetermined speed is exceeded.

Now is the right time for you to start enjoying the added economies and vehicle, cargo, and driver protection TACHOGRAPHS provide. Mail the coupon below for your free copy of Wagner Bulletin SU-3—it gives full details and data.



S65-5

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NeRoL • CoMoX BRAKE LINING • AIR BRAKES • TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES

Bender & Loudon Motor Freight

Incorporated
General Offices, 221 East Center Street
Akron 4, Ohio

RICHARD L. HOUSLEY
OPERATIONS MANAGER

Wagner Electric Corporation
6400 Plymouth Avenue
Saint Louis 14, Missouri

Gentlemen:

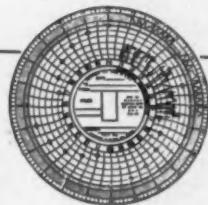
As a general Class 1 freight hauler operating in Ohio and Michigan there are many functions we must incorporate into our operation to provide the ultimate in customer service. As Operations Manager I see to it that these functions are carried out and abided by.

We have been using Tachographs since 1947 and they are now installed on 75 of our units. It has been my experience that Tachographs are essential to our operation and maintenance control program. They give us an accurate check on complete performance and greatly assist us in determining schedules. They give us a positive control by having valuable information readily at hand to make fullest use of our preventive maintenance program.

Our drivers have completely accepted the Tachograph, too, for they know it protects them and recognizes their good driving habits. This adds up to greater road safety and equipment economy.

Sincerely yours,

R. L. Housley
Richard L. Housley
Ass't Sec'y and Operation Mgr.





"Our test runs prove with *Lincoln Multi-Luber*®"

reports Frank L. Scott
Superintendent of Maintenance

HUSMANN & ROPER FREIGHT LINES, INC., St. Louis, Missouri

...and Guy Roper, Chairman of the Board, adds this comment...

"Based on the remarkable reduction in maintenance on our test installation, we have adopted the policy of equipping all new trailers with Lincoln Multi-Luber Power Lubrication systems.

"It is regular procedure for us to pull trailers in for inspection and overhaul once a year. Formerly, our cost of doing this work averaged \$200.00 for parts and labor per trailer... sometimes as high as \$500.00.

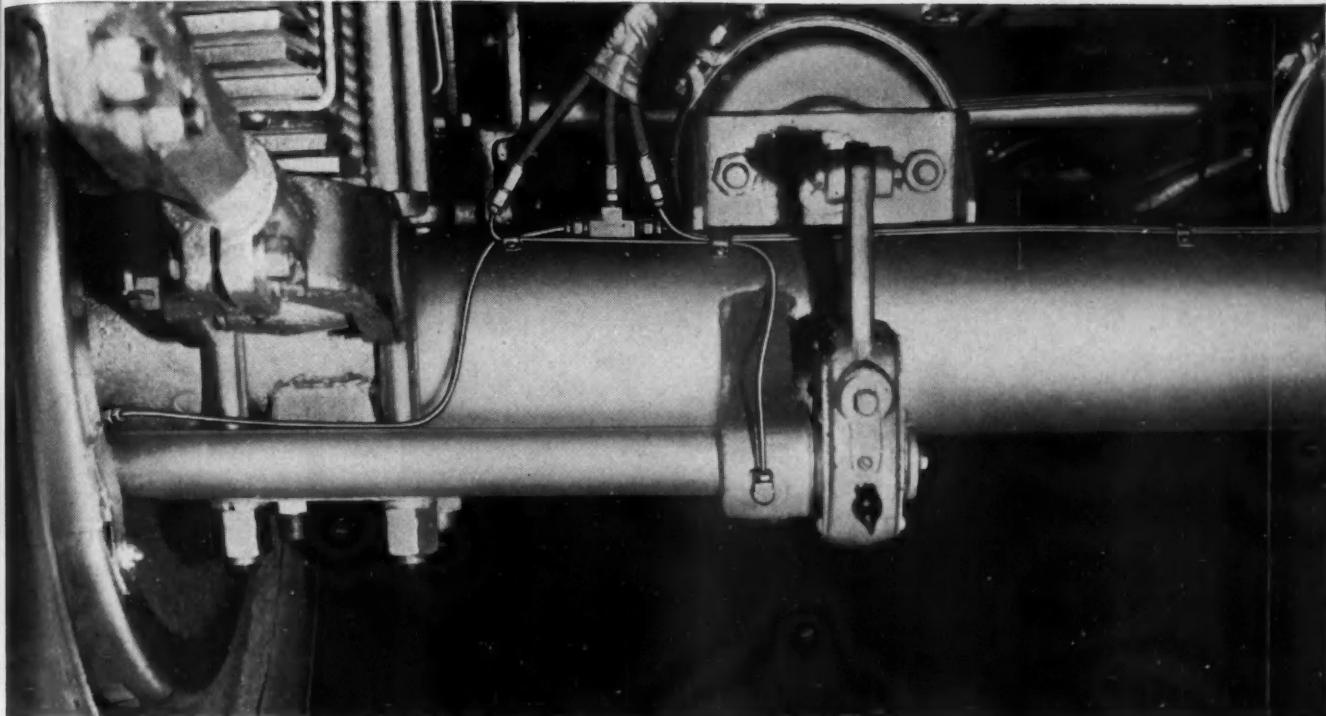
"But, after 60,000 miles of service... and much of it interline... we find that the trailer with Multi-Luber Power Lubrication required only \$18.00 in parts and labor! With this kind of protection, we expect to extend our inspection period to 150,000 miles... which means a very considerable operating advantage and saving.

"Needless to say, we are continuing to install Multi-Luber systems on all our trailers."

Lincoln

THE MOST TRUSTWORTHY NAME
IN LUBRICATING EQUIPMENT

OVER 100 FLEETS ALREADY USING THE LINCOLN MULTI-LUBER



Close-up views of Lincoln Multi-Luber Power Lubrication installations on trailers owned by HUSMANN & ROPER FREIGHT LINES

an average maintenance saving of 90% POWER LUBRICATION"

YOU CAN OPERATE A LARGER FLEET...
WITH LESS MAINTENANCE!

Slash your maintenance overhead with Lincoln Multi-Luber Power Lubrication. Complete kits are available for a wide range of installations. Systems can be installed in a few hours by any maintenance mechanic, without special training or special tools. Systems are air-operated, automatically delivering the correct amount of lubricant to each bearing every time the driver actuates the air brakes. The only maintenance required is to refill the central lubricant reservoir once every 7,500 miles.

FOR FULL INFORMATION... mail this coupon today...

LINCOLN ENGINEERING COMPANY

5703 Natural Bridge Ave., St. Louis 20, Missouri

Please send me information on Multi-Luber Power Lubrication Systems for Truck-Trailer installation.

Name.....

Company.....

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City..... Zone..... State.....

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5703 Natural Bridge Avenue • St. Louis 20, Missouri

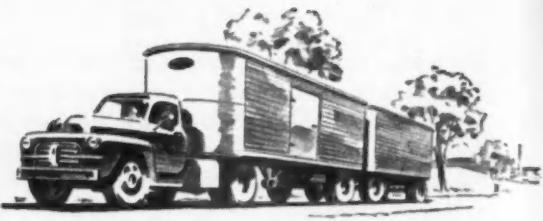
*Trade Name Registered Patent Pending

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Because — Eaton 2-Speed Axles provide speed with no sacrifice of pulling power, improve vehicle performance and maneuverability, and assure safer operation. They reduce wear and tear on engines and power transmitting parts, cut operating and maintenance costs. They keep trucks on the job, add thousands of trouble-free miles to vehicle life, and make trucks worth more on the trade-in.



More than Two Million
Eaton Axles in Trucks Today!

Ask your truck dealer
for complete information.

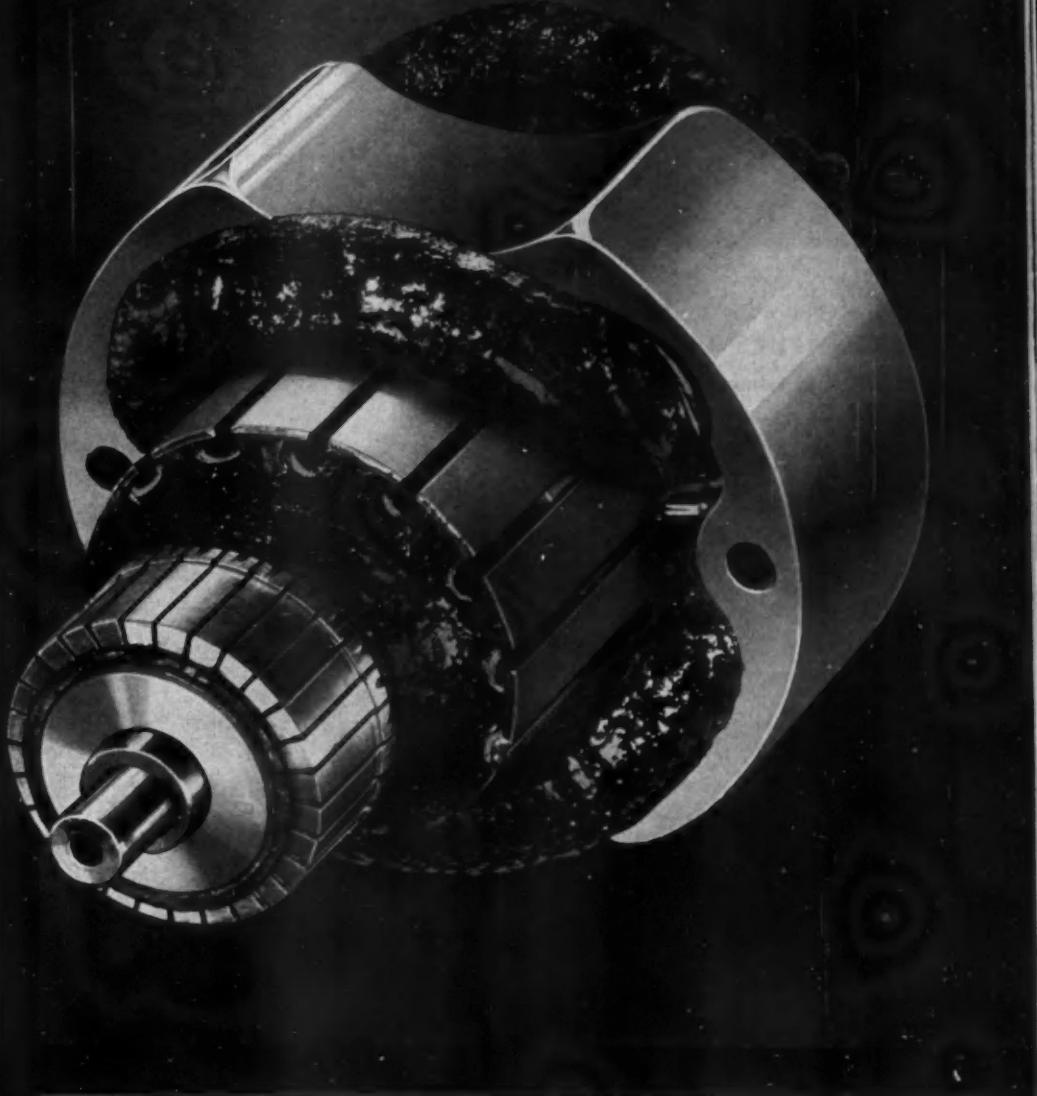
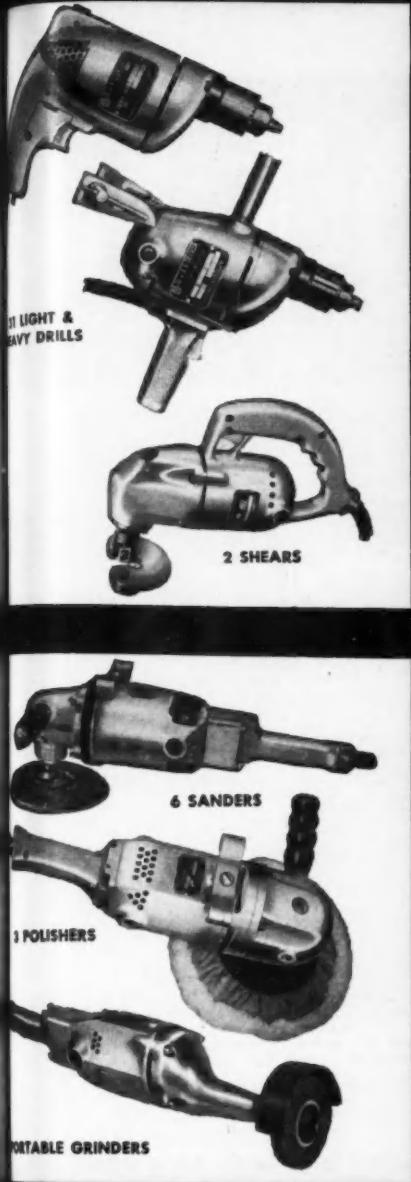
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When we say Black & Decker Tools have *GUTS*—here's why:

It's the *power plant*—heart of every Black & Decker Portable Electric Tool! Every B&D motor is designed and built specifically for each tool and the job it does! When we say these tools have guts, we're talking about B&D-built motors that can take it, that stand up whether your job is drilling, grinding, sanding, polishing, valve refacing, valve seat grinding or shearing metal.

Here are the compact, lightweight, tough Universal-type mo-

tors built specifically to supply ample torque at most efficient spindle speeds... to deliver the kind of results you have a right to expect from every Black & Decker tool! And, B&D offers you a complete range of over a hundred tools for every automotive shop operation.

For a demonstration, see your Black & Decker distributor, or write: THE BLACK & DECKER MFG. Co., Dept. 3908, Towson 4, Maryland.



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PORTABLE ELECTRIC TOOLS

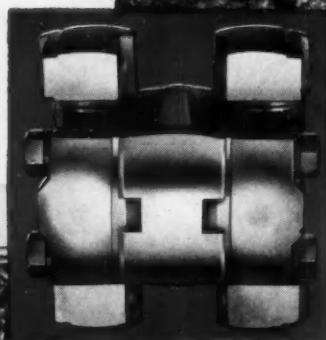
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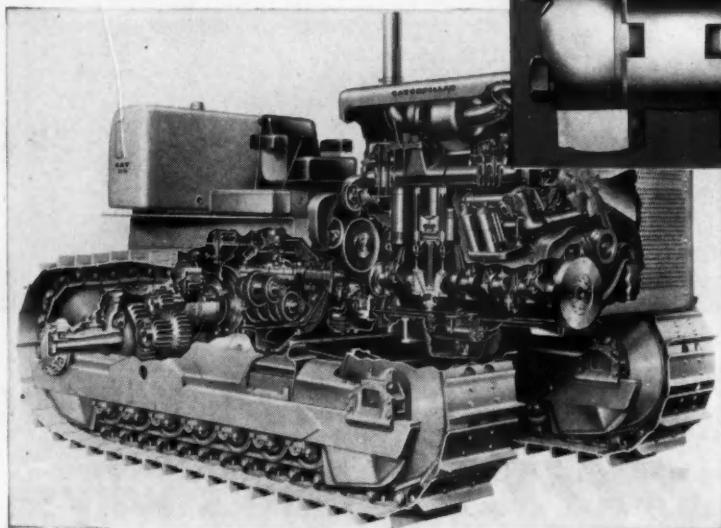
BEHEMOTH

All of the world's "biggest" tractors depend on MECHANICS Roller Bearing UNIVERSAL JOINTS to compensate for heavy-duty shocks and strains — severe enough to twist tractor frames. MECHANICS key-drive strength, flexibility and balance are unanimously specified by the largest tractor manufacturers to keep huge capacity machines operating long hours, day-after-day. They

The Cat D9 Tractor, shown below, sixth machine in Caterpillar's crawler line, is a 230-drawbar horsepower turbocharged tractor resulting from 10 years of big tractor research and development.



Thoroughly field tested during 1954, when Caterpillar put ten D9Xs on various jobs from coast to coast. This 56,000-pound machine has many earthmoving, construction, logging and pipe laying applications.



can't afford to permit large tractors and equipment to be kept idle by needless down-time. Let MECHANICS engineers help build reliability into your (200 to 50,000 foot pounds torque capacity) machines.

MECHANICS UNIVERSAL JOINT DIVISION
Borg-Warner • 2034 Harrison Ave., Rockford, Ill.

MECHANICS Roller Bearing UNIVERSAL JOINTS

For Cars • Trucks • Tractors • Farm Implements • Road Machinery •
Aircraft • Tanks • Busses and Industrial Equipment



"when we decided on 2-way radio...

naturally we picked
Motorola!"



Mr. Wesley Marks, Vice President of M&M Transportation Co., talks with one of the Motorola radio equipped drivers.

leading Boston carrier boosts efficiency 20%

Vice President Marks says, "Last year we decided radio would help us and asked around to find the best. The answer left little choice. We found that Motorola installs by far the most because it has the best record for performance and endurance and is easily serviced."

"It's been a year since we installed 25 Motorola mobile units in our Boston area trucks and the results have amazed us. Each truck does 20% more work by cutting down on profitless runback mileage. And the faster service gives us a real competitive edge. We can't praise our

Motorola system enough . . . we've even added 8 more units since the original installation."

Hundreds of motor carriers are earning extra profits daily with Motorola 2-way radio. Once installed, most of them echo M&M's opinion, "we wonder how we ever got along without it." A Motorola communications engineer will tell you the complete profit-making story, and give you all the facts on financing and licensing. Phone, write or wire—TODAY!

MOTOROLA

2-WAY RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
A SUBSIDIARY OF MOTOROLA, INC.
4501 AUGUSTA BOULEVARD • CHICAGO 51, ILLINOIS
ROGERS MAJESTIC ELECTRONICS LTD. TORONTO, CANADA



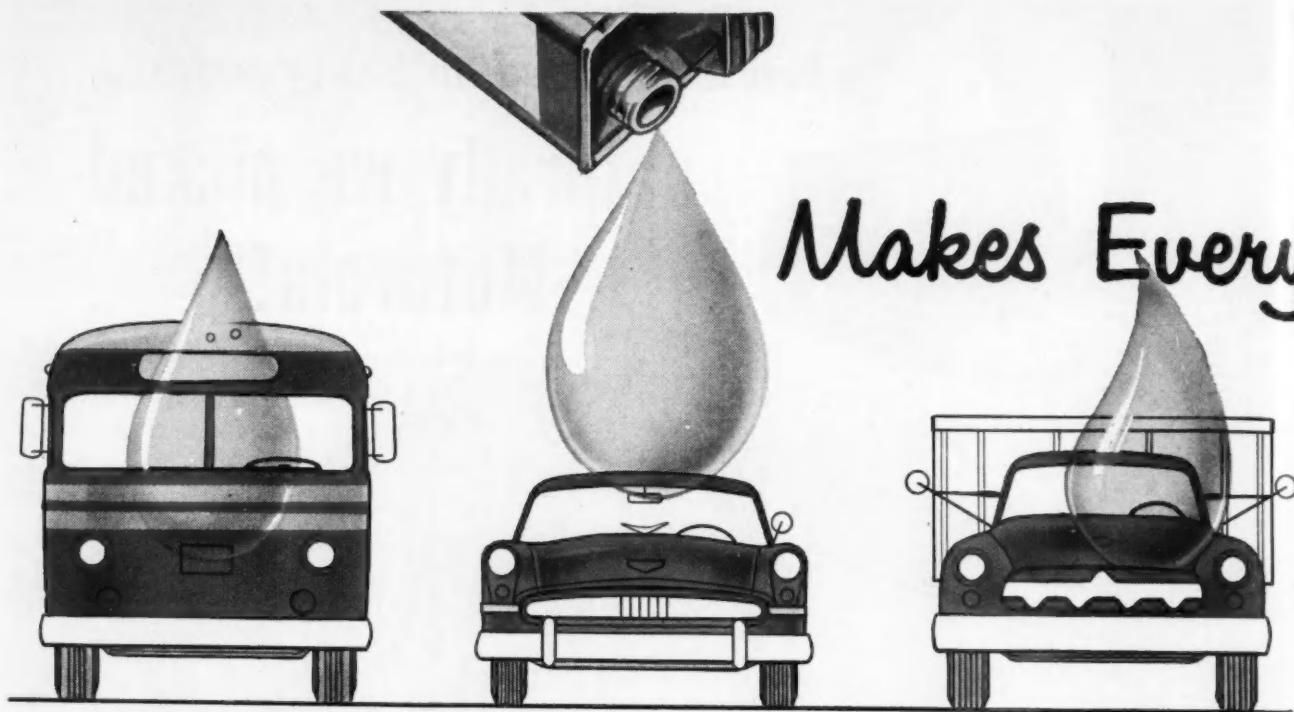
Motorola consistently supplies more mobile and portable radio than all others combined.

Proof of acceptance, experience and quality.

The only COMPLETE radio communications service—

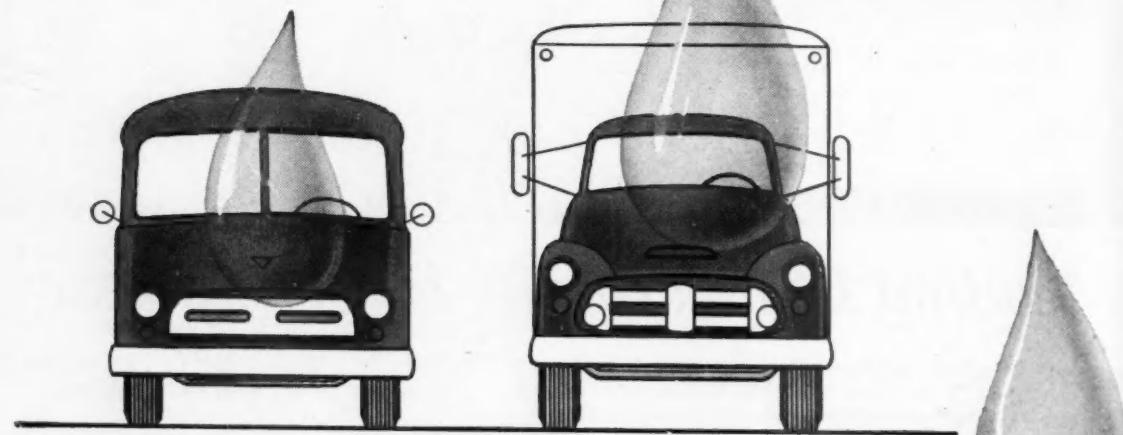
specialized engineering . . . product . . .
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"The best costs you less—specify Motorola."



Makes Every Stop

HEAVY-DUTY DELCO SUPER II Brake Fluid



Gives Maximum

Under the most rugged operating conditions, every stop is surer when Delco Super 11 heavy-duty brake fluid is used in the brake systems of cars, trucks or buses.

There's a big pre-sold market for Delco Super 11, too—it's original equipment on many vehicles, including all General Motors cars and trucks.

Delco Super 11 exceeds SAE specification 70R1, which establishes performance standards for heavy-duty brake fluid, including

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COMMERCIAL CAR JOURNAL, August, 1955

operating tem...
corrosive effect...
also exceeds U...
Super 9—the r...
tion 70R2.

Both Super 1...
quantity—from...
your United M...



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Stop Surer!



Braking Power

operating temperature ranges . . . lubrication . . . stability . . . corrosive effect on metals and rubber. Delco Super 11 brake fluid also exceeds U. S. government specification VV-F-451a. Delco Super 9—the moderate-duty brake fluid—exceeds SAE specification 70R2.

Both Super 11 and Super 9 are available in any convenient quantity—from 8-ounce cans to 54-gallon drums. Order from your United Motors distributor.

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products**

SECTION OF GENERAL MOTORS, DAYTON, OHIO

DELCO LINED BRAKE SHOES



Delco brake shoes and lining are best for replacement because they're made to original equipment standards.

WHEEL CYLINDER REPAIR KIT



Contains all parts needed to restore a wheel cylinder to best possible operating condition.

MASTER CYLINDER REPAIR KIT



Contains every part necessary to put a master cylinder back in normal operating condition.

**DELCO Makes
Brake-Repair
Easy!**

CCJ BULLETIN BOARD



Wreckless Driving and Me

If courtesy is contagious, then so is wreckless driving. They call it a chain reaction, but the hell of it is a snarl grows faster than a smile.

You and me and the pedestrians—we set the scene for some of these traffic situations with a courteous or a discourteous act. A little consideration for the other fellow stages a safe and sane trip—but a snarl will soon snowball into a tragedy. For an eventual accident is born with every discourteous act on the road.

You and me—we've got to watch out for the thoughtless driver as well as the incompetent ones. We'll:

- Give the guy the right of way instead of the horn
- Show him some respect in place of some road dust
- Share the road and not the ambulance
- Indicate intentions instead of annoyance
- Adjust speed to the road not to our ulcers
- Park 'em, dim 'em, back 'em, drive 'em as if life depended upon it

You and me—we respect the traffic laws because we want to (because we want to live). And the road hog and the maniac and the speed demon and the jack rabbit and the lane jabber are going to get a severe lesson from us—in good examples of safe driving . . .

CLIP AND POST ON YOUR OWN BULLETIN BOARD — REPRINTS AVAILABLE AT NOMINAL COST

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MIDLAND
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Midland's air ample braking kits for tractors nation-wide

Each Midland engineered for each working rigid tests to standards of

Midland's airified, most efficient hydraulic system and direct application safety and economy

The Midland's the truck and trailer cooler operation ample reserves for emergencies.

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FOR THE BEST IN AIR BRAKES

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MIDLAND'S AIR HY-POWER...

THE ULTIMATE IN SAFETY...

AVAILABLE IN COMPLETE KITS

Midland's air Hy-Power unit, which assures ample braking capacity at all times, is available in kits for tractors, trucks, and buses through Midland's nation-wide distributor organization.

Each Midland power brake kit is especially engineered for a specific tractor, truck, or bus — and each working part has been subjected to the most rigid tests to guarantee its meeting Midland's high standards of quality.

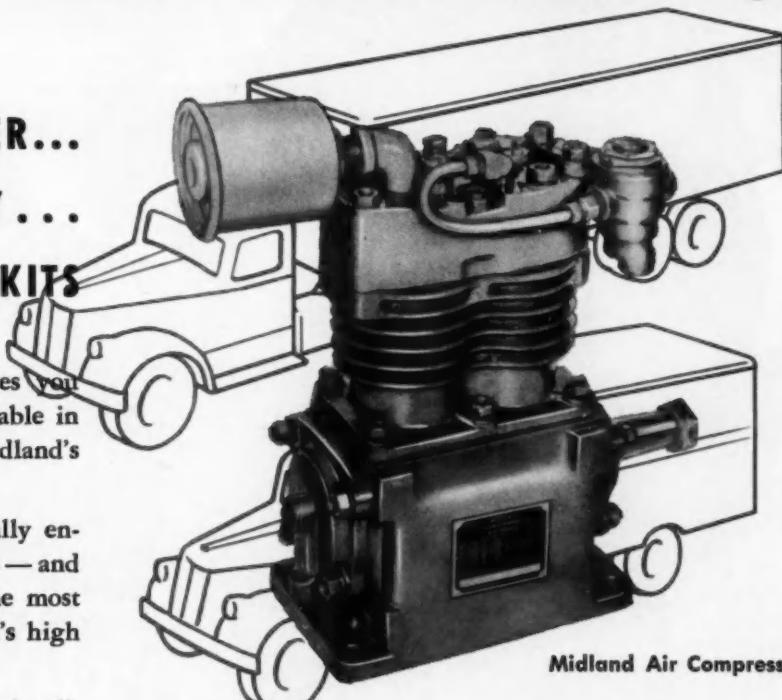
Midland's air Hy-Power unit is the most simplified, most effective, most up-to-date of air-over-hydraulic systems. Its fewer parts, lighter weight, and direct applied power make it the number one safety and economy buy for you.

The Midland Compressor is known throughout the truck and bus industries for its greater efficiency, cooler operation, simpler installation. Provides ample reserve braking power for the worst traffic emergencies.

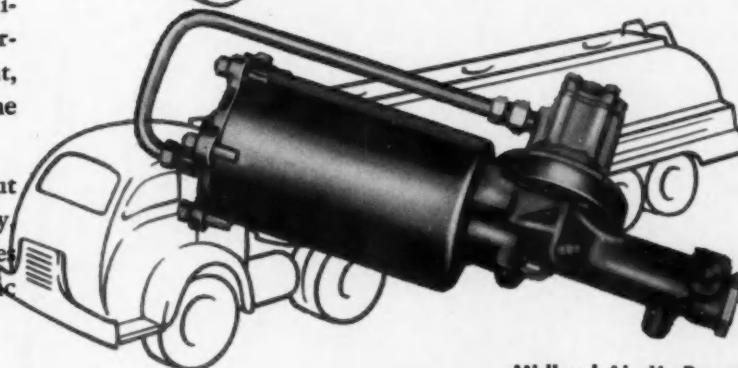
Go Midland today and be ahead tomorrow.

THE MIDLAND STEEL PRODUCTS CO.

3641 E. Milwaukee Avenue, Detroit 11, Michigan
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Midland Air Compressor



Midland Air Hy-Power



Those Who Know
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SAVE! ✓

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A whole auto-
generation—
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Clark Front S-
Veteran "sh-
in front, abs-
of modern ha-
at high speed
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shall continu-
by genera-
shall be, as i-
to do busine-



Known and Respected

A whole automotive generation—especially men who operate vehicles for revenue—knows and respects Clark Front Steering Axles.

Veteran "shock troops"—out in front, absorbing the punishment of modern heavy-duty transport at high speeds.

It is Clark policy that these axles shall continue to command respect by generations to come—and that it shall be, as in the past, good business to do business with Clark.



CLARK EQUIPMENT COMPANY • BUCHANAN • Battle Creek, Benton Harbor and Jackson, Michigan



Announcing the Clark-Ross Y-200- DESIGNED SPECIFICALLY For 20,000 lb. Jobs!

CHECK THESE FEATURES:

Heaviest uprights in the industry: Hi-tensile steel channel specially rolled for this truck.

Shortest turning radius: 15 feet; shorter than any other comparable truck.

3 in. thick steel steer axle.

10 in. underclearance at uprights, plus excellent weight distribution, permit operations under most severe yard conditions.

Safety check-valve built-in: a Clark-Ross exclusive; impossible to drop the load because of line failure.

Planetary gear drive: takes the strain off the axle; all drive components protected.

Extremely easy to service: hydraulic cylinder serviced from bottom, no need to remove uprights; engine and hydraulic system easily accessible.

From the ground up, the Y-200 is a genuine 20,000 lb. truck—not merely a beefed-up truck of less capacity. Pre-production models have been job-tested for nearly a year at steel mills, sawmills and wood treating yard.* These trucks have proved their ability to cut handling costs under the toughest conditions. We are frank to say that we believe the Y-200 will give you better performance, at less cost, than any comparable machine. We invite your comparison: Simply call your local Clark dealer, listed under "Trucks Industrial." Or write us direct. There's no obligation.

*Names supplied on request.

CLARK
EQUIPMENT

ROSS CARRIER DIVISION
Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek, Michigan

Brake line
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Today,
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The choi
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What
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In a stew about brake lining?

Brake lining claims coming at you hot and heavy? Got you confused? In a stew? There's no need to be. Here's one *sure* thing that makes sense in any man's language . . .

Today, Bendix-Eclipse Brake Linings and heavy-duty frictional materials are used on more new vehicles than any other make! The choice by far of America's leading car and truck manufacturers. And since the earliest days of the automobile, the name "Bendix" has always been identified and associated with every major braking improvement and advancement.

What better assurance could you have that Bendix-Eclipse* Brake Blocks and Linings are best for you. Order your stock now from your local Bendix-Eclipse jobber.

*TRADE-MARK



On more
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than any
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Bendix-Eclipse Brake Blocks and Linings

MARSHALL-ECLIPSE DIVISION OF  TROY, NEW YORK
AVIATION CORPORATION



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As an automotive
the cooling sys-
a freeze-up, is
cut down expen-
expensive repa-

Now — thanks
you can offer
ant-freeze for
improved PEAK
an exclusive
(Patent Pend.)
rust and cor-
other national



Why Car Owners Will Want *new, improved* PEAK

- *It's the modern anti-freeze that beats engine rust*
- *It's backed by "Hometown Advertising" in your area*

As an automobile expert, you know that the cooling system's worst enemy, next to a freeze-up, is rust and corrosion. It can cut down engine efficiency and lead to expensive repair bills.

Now — thanks to years of CSC research — you can offer your customers the modern anti-freeze for the modern car . . . new improved PEAK® Anti-freeze. Because of an exclusive rust-inhibitor combination (Patent Pending), PEAK provides *better rust and corrosion protection than any other national brand . . . beats engine rust.*

And PEAK gives unsurpassed freeze-protection . . . won't creep, leak, or seep from any cooling system tight enough to hold water . . . contains a special anti-foam agent designed to prevent overflow losses.

To get this story of PEAK superiority across to *your* customers . . . PEAK's "Hometown Advertising" program will lead off this year with full-color, full-page advertising in LIFE magazine. Then, day after day, PEAK sales messages will reach the car owners in your hometown on local TV spots, or in newspaper ads, or on radio.

And that's not all NOR'WAY® Anti-freeze will be featured with a "Hometown Advertising" campaign of its own. This campaign sells car owners who want an economical-type anti-freeze on using high-quality, low-cost NOR'WAY.

Right now's the time to be sure you're well-stocked with PEAK and NOR'WAY . . . ready to take full advantage of this powerful advertising support. "Hometown Advertising" creates demand — and car owners will be on the lookout for your tie-in displays. Make sure you get their business. For the name of your nearest supplier, write to Commercial Solvents Corporation, 260 Madison Ave., New York 16, N. Y.

PEAK ANTI-FREEZE • NOR'WAY ANTI-FREEZE • NOR'WAY CHEMICALS 

New!

SHOCKPROOF NOISELESS WELDER!

MARQUETTE'S all new 90-Series A. C. Welder ends all exposure to dangerous welding currents. Its "Perma-Shield" Cabinet, made of *non-conductive fibre glass*, surrounds the welder unit, eliminating all possibilities of shock from improper wiring or short circuits. The welder is also completely free of noise. Cabinet vibrations, caused by transformer eddy currents which flow in metal cabinets, are eliminated as these currents cannot flow through the non-conductive fibre glass.

Here are more outstanding advantages of "Perma-Shield" construction: eddy current losses are ended, raising transformer efficiency about 10 per cent... operation is noiseless and the cabinet stays cool... fibre glass is rustproof, corrosion proof and permanently colored... and it is stronger and more rigid than steel, yet 4 times lighter in weight.

Two sizes are available. One delivers 200 amperes, the other 275; and each can be capacitor-equipped for power factor correction.

MARQUETTE also manufactures a complete line of AC and DC welders, welding electrodes and welding accessories.

New Ask your distributor to show you Marquette's all new line of "Jet" Series oxy-acetylene welding and cutting equipment.



Contact

your MARQUETTE distributor for a FREE demonstration... or write us for complete descriptive literature.

When It Comes to Welding Come to

MARQUETTE

WELDING EQUIPMENT — WELDING ELECTRODES
MARQUETTE MANUFACTURING COMPANY, INC.

307 E. Hennepin Avenue, Dept. EW-4, Minneapolis, Minnesota

ULTRALITE gives you performance proof— not promises

When you buy truck insulation you want long-haul performance — an insulation that won't change its shape or lose its thickness or efficiency over the years.

ULTRALITE is that insulation. It is the only fine glass fiber insulation that has been in service long enough to prove conclusively what it will or won't do. It is the only glass fiber insulation offered in thicknesses from $\frac{1}{2}$ " to 6" for those extra-low temperature jobs.

Only ULTRALITE is backed by documented proof of performance: photos showing the condition of ULTRALITE after years of service . . . road tests conducted by business and government agencies . . . case histories . . . statements from truckers, shippers and bodybuilders.

ULTRALITE costs no more than ordinary insulations.

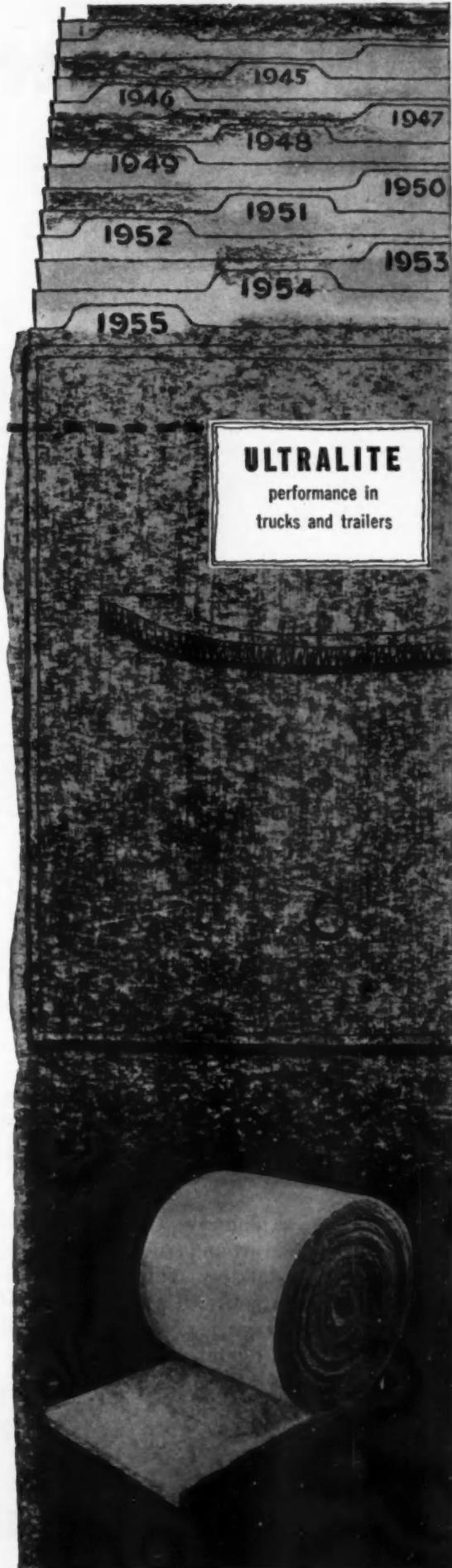
So make no mistake when you insulate — install ULTRALITE, the long haul insulation!

WRITE TODAY FOR NEW 8-PAGE FOLDER containing technical data on ULTRALITE and timely insulation tips for shippers, truckers and body-builders.

GUSTIN-BACON
230 W. 10th St., Kansas City, Mo.
Manufacturing Company

Thermal and acoustical insulations • Molded glass fiber pipe insulation
Pipe couplings and fittings

August, 1955
COMMERCIAL CAR JOURNAL, August, 1955



This smart fleet goes Ford all the way



WESTERN'S FLEET consists of C-800 and F-900 BIG JOBS, handsome F-100 Panel delivery, roomy station wagon, speedy Thunderbird—all Fords for dependable service day and night.

Western Printing and Lithographing Co., Poughkeepsie, N. Y., says that Ford's modern Short Stroke power means big performance with low maintenance and operating costs.

Walter H. Johnson, Garage Foreman for Western, has been around trucks a long time. He knows what he's talking about when he says, "Ford Short Stroke power has just the *get up and go* we need for our tough midwest run—plus low maintenance and operating costs."

The *Cargo King* V-8 engines in Ford's BIG JOBS also have the greatest valve improvements in any truck engine available today. First: you get Sodium-Cooled Exhaust Valves. The valve

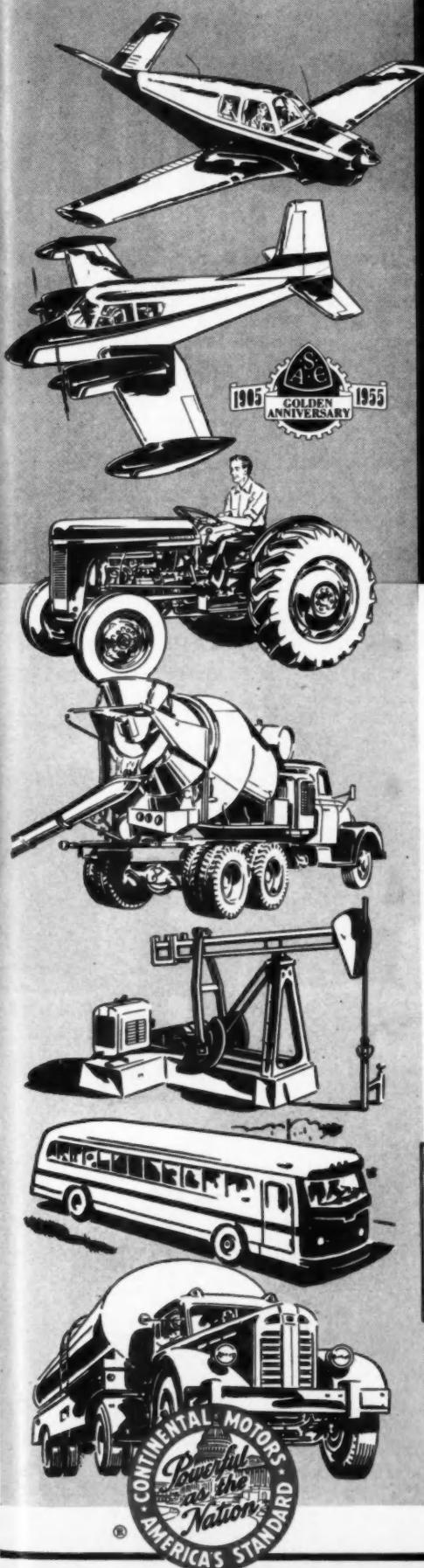
stems are hollow. They're partially filled with powdered sodium which turns to liquid when hot. This liquid carries heat away from the valve heads much faster than solid stems do. Valves run up to 225°F. cooler, last far longer.

Longer exhaust valve life is also accomplished by *solid* cobalt-chrome-alloy valve seat inserts and cobalt-chrome-faced valve heads. These are practically impervious to heat, corrosion and wear. You also have *dished intake valves* that are self-sealing under extreme heat conditions.

All these features—and many more—make Ford your best fleet buy today. You're right, Mr. Johnson, "Ford is a good, dependable truck."

6 EAST 45TH STREET
58, CALIFORNIA

COMMERCIAL CAR JOURNAL



THERE'S JUST NO END TO THE END USES OF **CONTINENTAL RED SEAL® POWER**

Within Continental's range, from two to 1,100 horsepower, it would be hard to name a type of engine-driven product—vehicle, aircraft, boat, or industrial machine—of which one or more of the leading makes do not rely today on Continental power. As might be assumed from the current trend toward greater specialization, the list of such applications is longer than ever before. The field of Red Seal usefulness has broadened to the point where—as this list suggests—there is almost no end to the industrial uses of dependable Continental power.

Air Compressors . . . Air Conditioners . . . Airplanes . . . Backfillers . . .
Binders . . . Binders . . . Blowers . . . Buses . . . Bulldozers . . . Combines . . .
Commercial Boats . . . Concrete Mixers and Pavers . . . Conveyors . . .
Cranes . . . Crop Dusters . . . Derricks . . . Ditchers . . . Drill Rigs . . .
Earth Borers . . . Earth Movers . . . Electric Welders . . . Elevators . . .
Ensilage Cutters . . . Excavators . . . Farm Tractors . . . Gathering Pumps . . .
Graders . . . Hay Loaders . . . Heavy Engine Starters . . . Helicopters . . .
High Lifts . . . Hoists . . . Industrial Tractors . . . Irrigation Pumps . . .
Loaders . . . Lumber Carriers . . . Materials Handlers . . . Oil Field Machinery . . .
Parcel Delivery Trucks . . . Pile Drivers . . . Pipe Benders . . . Portable Generators . . . Rail Cars . . . Rollers . . . Rock Crushers . . .
Saw Mills . . . Separators . . . Shovels . . . Snow Plows . . . Sprayers . . .
Street Flushers . . . Street Sweepers . . . Threshers . . . Trainer Aircraft . . .
Transit Mixers . . . Truck Tractors . . . Warehouse Trucks . . . Winches, and many others.

Continental also builds 4-cycle air-cooled models, from 2 to 3 h.p., for many industrial and farm applications, both conventional and vertical shaft. (AU series illustrated.) Advanced engineering gives them easy starting, high dependability, and unusual lugging capacity at low speeds. For information, address Air-Cooled Industrial Engine Div., 12800 Kercheval Ave., Detroit 15, Mich.

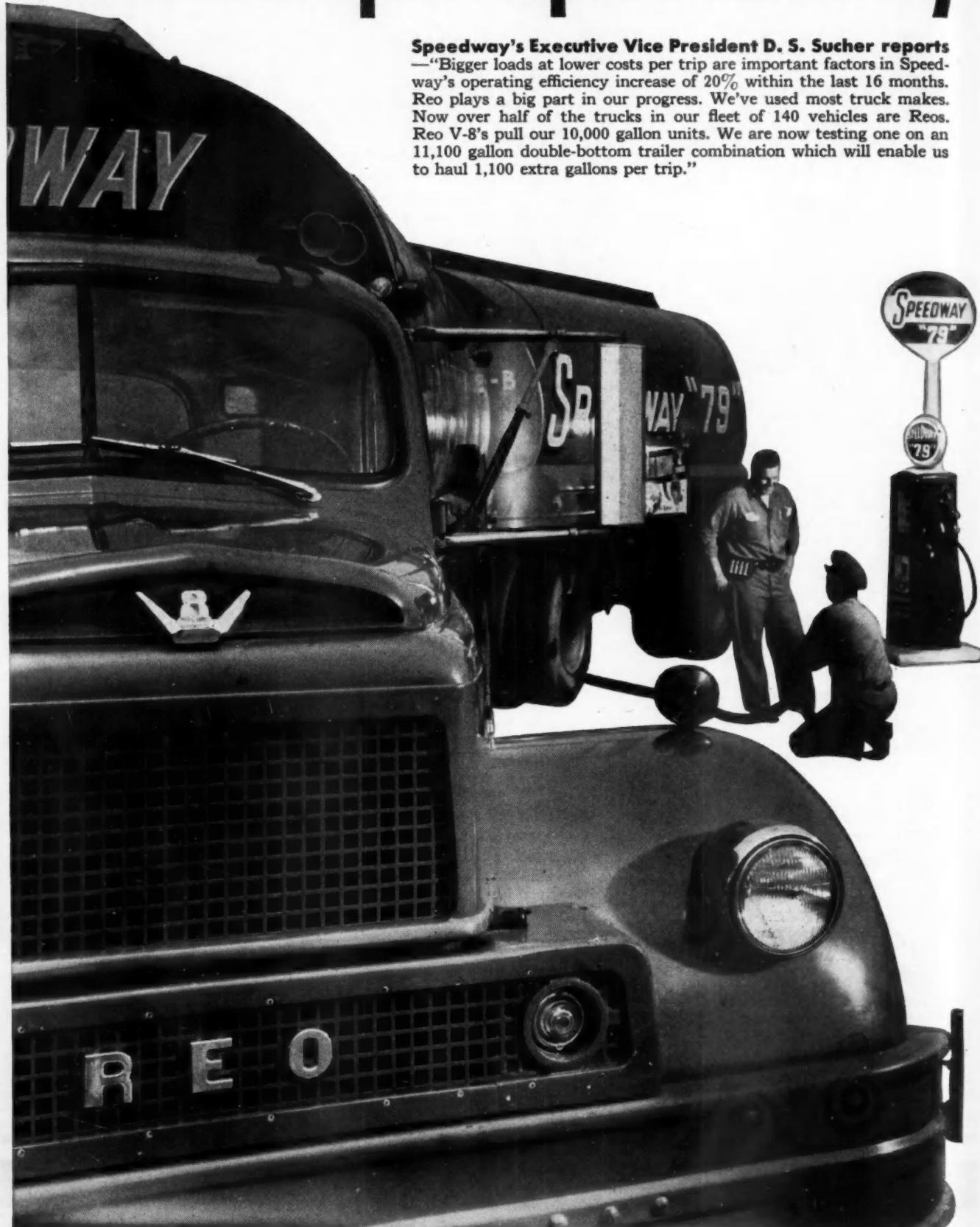


SERVICE FACILITIES AND GENUINE RED SEAL PARTS
ARE AVAILABLE EVERYWHERE

Continental Motors Corporation
MUSKEGON - MICHIGAN

6 EAST 45TH STREET NEW YORK 17, NEW YORK • 6218 CEDAR SPRINGS ROAD, DALLAS 9, TEXAS • 3817 SOUTH SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA • 910 SOUTH BOSTON STREET, ROOM 1008, TULSA, OKLAHOMA • 1252 OAKLEIGH DRIVE, EAST POINT (ATLANTA) GEORGIA

Reo Helps Speedway



Speedway's Executive Vice President D. S. Sucher reports

—“Bigger loads at lower costs per trip are important factors in Speedway's operating efficiency increase of 20% within the last 16 months. Reo plays a big part in our progress. We've used most truck makes. Now over half of the trucks in our fleet of 140 vehicles are Reos. Reo V-8's pull our 10,000 gallon units. We are now testing one on an 11,100 gallon double-bottom trailer combination which will enable us to haul 1,100 extra gallons per trip.”

Cu
World
backed

Speedway
fleet owned
Reos are s
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½ horsepo
35% more
No other
usable ho

No other
sleeve co
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What Re
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See what
truck with
—will do
Reo man

SUBSIDIARY

Reo Mot
TRUCKS, B

Cut Operating Cost 20%

World's toughest trucks with the wonder engines backed by 100,000 mile warranty . . .

Speedway's cost savings experience with Reos is shared by fleet owners the nation over. On their jobs everywhere Reos are setting spectacular records for efficiency. Reo's powerful Gold Comet Engines develop a startling $\frac{1}{2}$ horsepower per cu. in. displacement—up to 35% more efficient than industry average. No other engines deliver such responsive, usable horsepower to the wheels.

No other line has short stroke, wet sleeve construction throughout—truly the modern wonder engines for power, performance, and low cost maintenance. They're backed by a 100,000 mile warranty. What Reos are doing for others, Reos can do for you.

See what a Reo—world's toughest truck with the modern wonder engine—will do on your job today. Your Reo man will gladly arrange it.



Most powerful V-8 truck engine ever built in horsepower-per-pound performance. Advanced engineering features of Reo's Gold Comet V-8's include short stroke, wet sleeve design, high velocity cooling, dual oil filtration. 195 and 220 horsepower—in gas or LPG models.

REO

SUBSIDIARY OF **BOHN** ALUMINUM & BRASS CORPORATION

Reo Motors, Inc., Lansing 20, Mich. • Toronto, Ontario

TRUCKS, BUSES AND GOLD COMET ENGINES FOR ORIGINAL EQUIPMENT, INDUSTRIAL AND REPLACEMENT—LPG OR GAS



100,000 MILE WARRANTY ON REO GOLD

Naturally, this has to be the best line of medium and heavy duty truck engines ever built.

Only a sensational engine, vastly improved over the older models in use today, could stand up to a 100,000 mile warranty. Reo Gold Comet Engines develop a startling $\frac{1}{2}$ h.p. per cu. in. displacement—actually up to 35% more than the industry average. A new standard in modern truck engine efficiency.

No other line delivers so much *usable* horsepower to the wheels. No other has advanced wet sleeve construction throughout. *No other can be maintained and overhauled at just a fraction of standard costs.* A Reo Gold Comet in a tough

Reo chassis will give you more performance, economy and efficiency than you have ever known before. Ask today—for a demonstration *on your job.*



220

Gold C

V-

Only 39½" long with accessories—*the miracle of modern design.* Conventional trucks within operating ad-

ditional sleeve cylinder

the most power ever built.

SUBSIDIARY

Reo Motor
TRUCKS, BUS

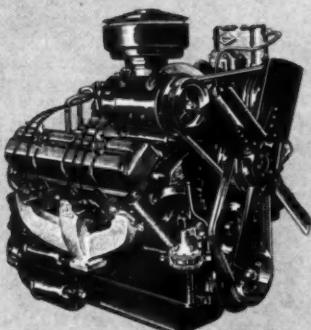
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220 H.P.

Gold Comet

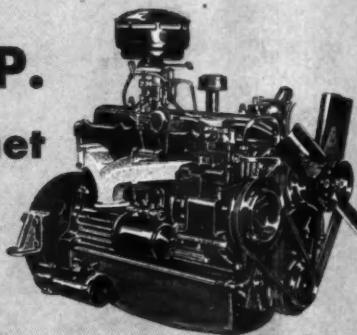
V-8



160 H.P.

Gold Comet

Six



Only $39\frac{1}{2}$ " long and weighing 1211 lbs. with all accessories—it's the *space- and weight-saving miracle* of modern truck engine engineering. Lets conventional tractors haul 35 ft. square-nose trailers within 45 ft. overall. Offers all the proven operating advantages of Reo replaceable wet sleeve cylinder construction. Pound for pound, the most powerful short stroke V-8 truck engine ever built.

World famous *wet sleeve* wonder engine. Big Brother to the 145 h.p. Gold Comet which rolled up a distinguished war record in Reo "Eager Beaver" Trucks. Engineered for peak power output, operating efficiency and maintenance savings. High h.p. to low engine weight and cu. in. displacement. Extra power and speed plus rugged dependability.

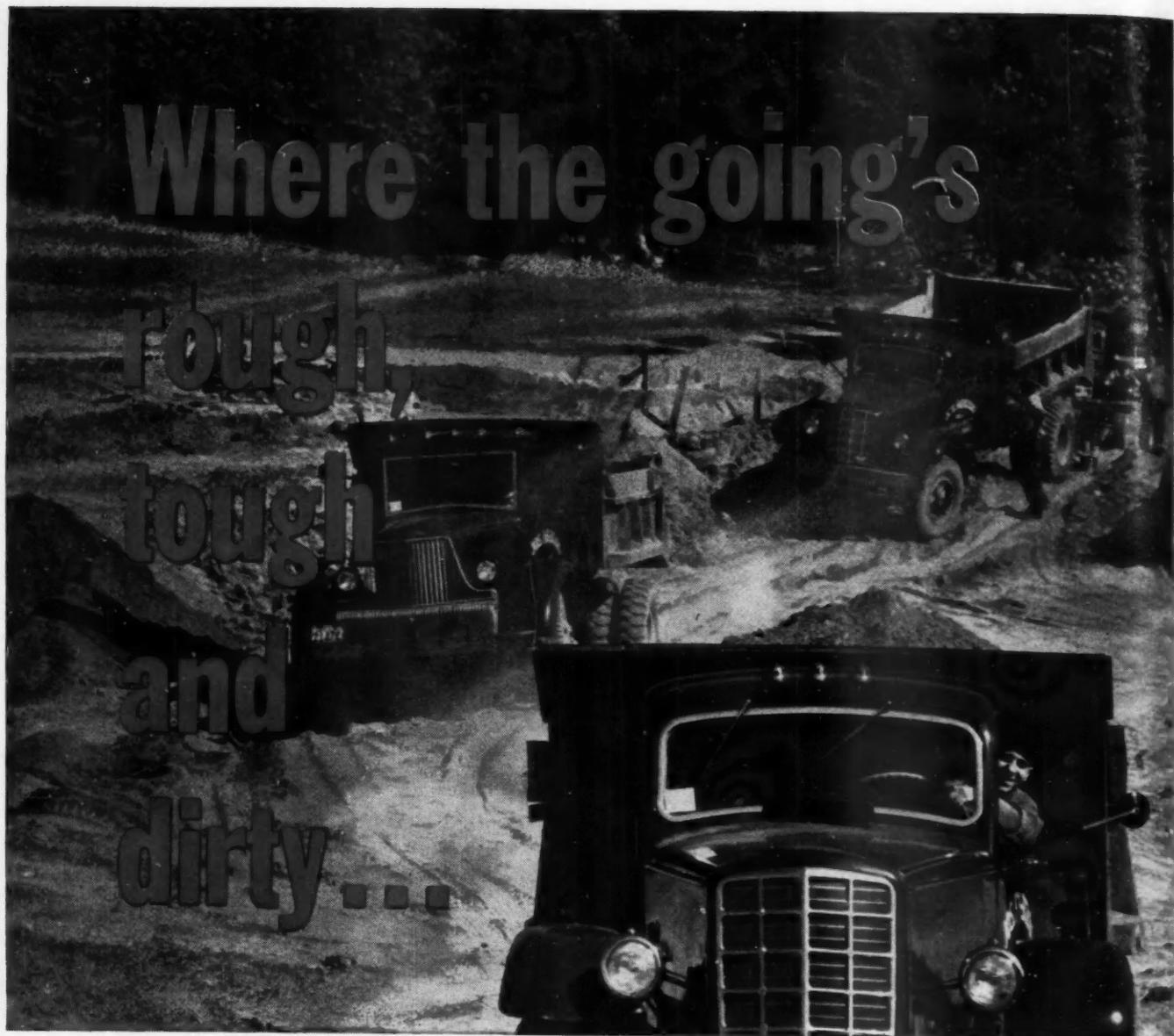
REO

SUBSIDIARY OF **BOHN** ALUMINUM & BRASS CORPORATION

Reo Motors, Inc., Lansing 20, Mich. • Toronto, Ontario

TRUCKS, BUSES AND GOLD COMET ENGINES FOR ORIGINAL EQUIPMENT, INDUSTRIAL AND REPLACEMENT—LPG OR GAS





FRAM is first!

HERE'S PROOF . . . In a recent survey among thousands of construction men—contractors, builders, engineers—respondents were asked to state what brands of equipment they preferred. The results of that survey, as far as oil filters go, are recorded in the chart below. It shows how FRAM is the overwhelming choice among the 3 leading filter brands. We think this speaks for itself!

FRAM®
OIL • AIR • FUEL • WATER
FILTERS



BRAND	1ST CHOICE	MENTIONED
FRAM	36.4%	49.2%
"A"	18.9%	26.5%
"B"	12.1%	26.5%

FRAM CORPORATION, Providence 16, R.I. Fram Canada Ltd., Stratford, Ontario

A DRIVER
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hauling tra
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year in a c
Safety Glas
likes Solex

"I see b
Griffin. "It



On U. S. Route 75

"Solex cuts down the sun glare"

says Charles M. Griffin, Houston, Texas



U.S. 75, called the Gulf Freeway, stretches 50 miles through the hot, steaming country between Houston and Galveston, Texas. Hauling a big trailer through the heat and sun glare is a tough job, but Solex makes the job easier because it reduces the amount of solar heat and light entering the cab.



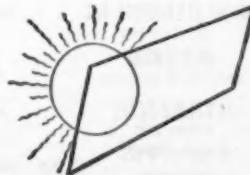
A DRIVER WITH over a million miles to his credit, Mr. Griffin has been hauling trailers for 20 years. Like most Shelby Dinettes, Inc. drivers, he averages about 100,000 miles a year in a cab equipped with Solex Safety Glass. We asked him how he likes Solex.

"I see better with Solex," says Mr. Griffin. "It cuts down the sun glare,

and my eyes are not so tired at the end of a hard day's drive."

Improved visibility and reduced eye strain are good reasons for having Solex Safety Glass in all your new equipment, and replacing the glass in your present trucks with Solex. You'll find that your drivers will be more comfortable, less fatigued, and—as a result—safer drivers.

You can get Solex in all the well-known types of Pittsburgh Safety Glass—Duplate®, Duolite® and Herculite®. For more information write to Pittsburgh Plate Glass Company, Room 5332, 632 Fort Duquesne Boulevard, Pittsburgh 22, Pa.



SOLEX® "the best glass under the sun!"

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



The man to see is your **United Motors Distributor!**

**ORIGINAL EQUIPMENT
CHASSIS AND ENGINE PARTS FOR**
BUICK • Cadillac • CHEVROLET
GMC • OLDSMOBILE • PONTIAC
PLUS -
DELCO
 BATTERIES
KLAXON
 HORNS
MORaine
 GASOLINE FILTERS
NEW DEPARTURE
 BALL BEARINGS
DELCO
 BRAKE PARTS AND FLUID
HARRISON
 THERMOSTATS
IN-LITE
 BRAKE LININGS
GM HYDRA-MATIC
 UNITS AND PARTS

MORaine
 ENGINE BEARINGS
AC
 GAUGES-SPEEDOMETERS
DELCO
 SHOCK ABSORBERS
ROCHESTER
 CARBUREATORS
Saginaw
 STEERING
Packard
 CABLE PRODUCTS
HYATT
 ROLLER BEARINGS
Guide
 LAMPS
DELCO
 ELECTRONIC PARTS

The job of a United Motors Distributor goes far beyond stocking parts. A practical and working knowledge of automotive maintenance and the problems it entails is as much a part of his business as selling replacement parts. He's familiar with fleet operations and fleet problems, and has some important answers to the problems involved in keeping a fleet on the go.

An indication of his good judgment is the very parts he handles. They're original equipment service parts, with the best reputation in the business for fine performance—the kind that keeps your fleet on the road where it belongs.

Drop in and see your United Motors Distributor soon—there's one near you wherever you are. He'll explain how the world-famous parts lines you see at the left can help your fleet. Remember—maintenance is his business!

* Listen to Lowell Thomas on CBS Radio Network—
 See your newspaper for time and station.

GENERAL MOTORS PRODUCTS



SERVICE

UNITED MOTORS LINES



Steel Wool



Abrasives



Masking Paper



Tack Cloths



"It goes on fast!"

Edgar Boeticher
B. J. Ratigan Motor Sales
Detroit, Michigan

PERMACEL[®] TAPE

AND REFINISHING SUPPLIES

a Johnson-Johnson company

TAILORED POWERCO

9

Exclusive possibilities provided

How TDA's e-2-speed axles offer the best choice of "speed."

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TDA's money-saving
benefits . . . like
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hauling problems.
TDA

How TDA
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FLEXIBLE POWER is the key to profitable hauling today. A vehicle must have the *workhorse pulling power* to haul heavy loads! *Torque* is needed for bad road conditions or hill-climbing! *Speed* is needed for fast hauling, to bring an empty vehicle back for new loads sooner.

TDA 2-Speed Axles answer trucking's need for flexible power. Exclusive double-reduction design permits a range of spreads all the way from 28% to 49%... in an almost unlimited number of gear combinations. TDA allows tailoring the power of your truck to meet any variety of hauling conditions.

TIR
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TRADE

World's Largest

True

Plans at: Detroit, MI
New York • Atlanta

New

OVERCOMES TO TRUCKING

with TDA 2-speed axles

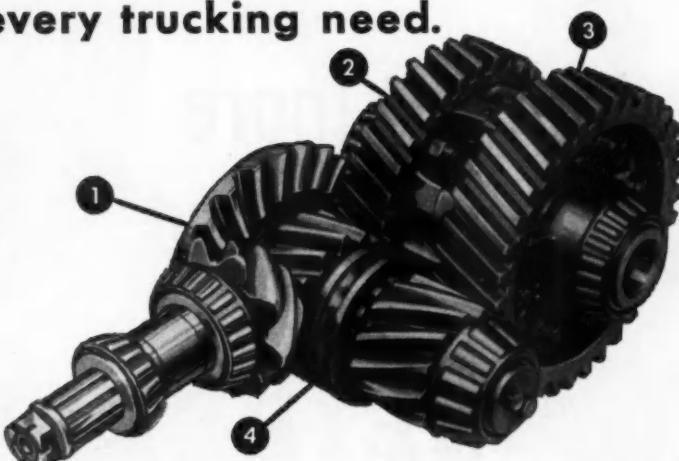
Exclusive, double-reduction design offers almost unlimited possibilities of gear ratios and ratio spreads—this versatility provides tailored power for every trucking need.

How TDA's extra "spread" works to your benefit. All 2-speed axles employ an extra set of gears to give two ranges of speed or power to choose from . . . one for *pulling power*, the other for fast speed. Most 2-speed axles offer only one choice of "spread"—37%. Design limitations prevent changing this standard "spread".

However, TDA uses the exclusive double-reduction design. With TDA, spreads are available all the way from 28% to 49%. This means that your axle can actually be tailored to give you just the power you need. Not only can you specify the spread most suited to your immediate trucking need—but you can easily change from one spread to another by merely changing the low speed helical pinion and gear—an easy mechanical change.

TDA's more efficient use of engine power gives important benefits . . . high road speeds, faster deliveries, better payload, and maximum fuel economy. No matter what your hauling problem or load/road conditions you save with TDA.

How TDA's 2-Speed principle works! A husky hypoid ring gear and pinion set (No. 1 above) provide the *first step* of the total gear reduction for both fast and slow ratios. Two large, heavy-duty helical gear sets provide the *second*



step. Both sets are of balanced size and capacity. One set (No. 2) is for fast speed; the other (No. 3) is for slow speed. The clutch collar (No. 4) power shifts to right or left to engage one helical pinion or the other.

Greater endurance, longer truck life with TDA. TDA's simple design eliminates small complicated parts and midget size gears. Large hypoid-helical design provides more teeth in contact—quieter operation and far less strain. Bearings are larger, too. All this adds up to more profitable operation under all conditions.

TIMKEN
Detroit
AXLES

TIMKEN DETROIT AXLE DIVISION
ROCKWELL SPRING AND AXLE COMPANY
DETROIT 32, MICHIGAN



World's Largest Manufacturers of Axles for Trucks, Buses and Trailers

Plants at: Detroit, Michigan • Oshkosh, Wisconsin • Utica, New York • Ashtabula, Kenton and Newark, Ohio
New Castle, Pennsylvania

©1955 RS&A Company

Increase axle life with GENUINE TDA EQUIPMENT PARTS

Take no chances with ordinary replacement parts. For sure, dependable, factory-type jobs, specify genuine Timken-Detroit Axle parts kits—identical to your axles' original equipment.

Each kit is complete—gives you everything you need in one handy package. Gaskets and shims, brake liners and rivets, steering knuckles, king pins and bushings, differential nests—for every

size of brake and axle. Order by number from your dealer. Cut labor and adjustment costs. Get trucks back on the road quicker.





You put more
tire on the road

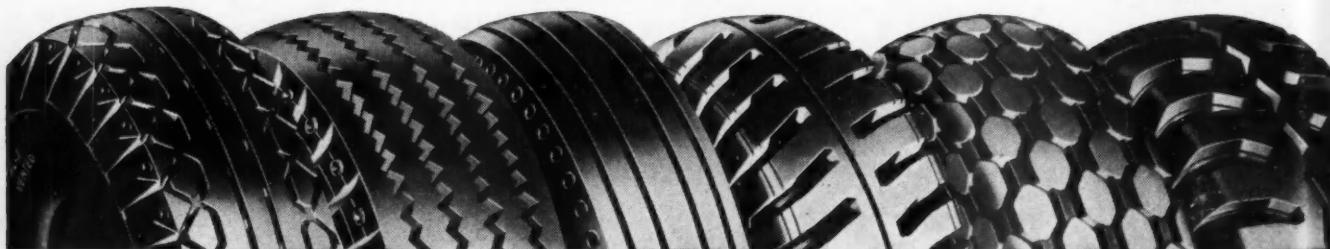
with the

SEIBERLING *"Air-Conditioned"* HIGHWAY 110 TRUCK TIRE

This all-purpose Truck Tire is designed to put more rubber on the road from the very FIRST mile! . . . has no period of rapid wear while the tire "wears in" to fit the road.

Seiberling Highway 110 exclusive tire features add up to lower cost per mile for you. Your Seiberling Dealer would like to tell you all about this exceptional tire. Why not give him a call today?

SEIBERLING RUBBER COMPANY
AKRON, OHIO • TORONTO, CANADA



SEIBERLING . . . A TRUCK TIRE FOR EVERY TYPE OF SERVICE

FITZGERALD

Metallic Aluminum-Fused-Oxide Steel Asbestos
GASKETS

Rugged All ways



Combining strength and flexibility of specially soft-annealed steel . . . aluminum's resistance to rust and corrosion . . . and a filler of top quality asbestos . . . Fitzgerald gaskets give a *lasting* perfect seal under the tough punishment modern high compression engines deliver. Users who've ended a series of costly gasket failures by switching to Fitzgeralds swear by them. You will, too.

THE FITZGERALD MANUFACTURING CO.

Torrington, Connecticut

Branches and Warehouses • Los Angeles, Calif.; Chicago, Ill.
Canadian FITZGERALD Ltd., Toronto, Canada

also...

GREASE RETAINERS • CORK GASKETS
FITZ-RITE TREATED FIBER GASKETS FOR OIL,
GASOLINE AND WATER CONNECTIONS
COMPLETE SETS
FOR MOTOR REBUILDERS

FITZGERALD
Gaskets
SINCE 1906



GET THE TRUCK WITH THE EXTRA VALUE FEATURES



GET STUDEBAKER ...AND SAVE!



STUDEBAKER DIVISION OF STUDEBAKER-PACKARD CORPORATION...ONE OF THE 4 MAJOR FULL-LINE PRODUCERS OF CARS AND TRUCKS

178

- Powerful V-8 short stroke engines with proven gas-saving economy, plus high torque Econ-o-miser Six
- A wide, practical range of models and bodies to meet your hauling needs
- Most comfortable, easiest riding trucks on the road • Husky box-section frames with front K-member
- Brawny axles, oversized brakes, cross-link big leverage steering
- Heat-treated, oil-tempered springs for maximum load cushioning, light or loaded • Overdrive available on 6 or 8 cyl. $\frac{1}{2}$ and $\frac{3}{4}$ ton models • Automatic drive available on 8 cyl. $\frac{1}{2}$ and $\frac{3}{4}$ ton models.

Save on price

Save down-time

Save operating cost

**And drive America's
easiest riding truck
in the bargain!**

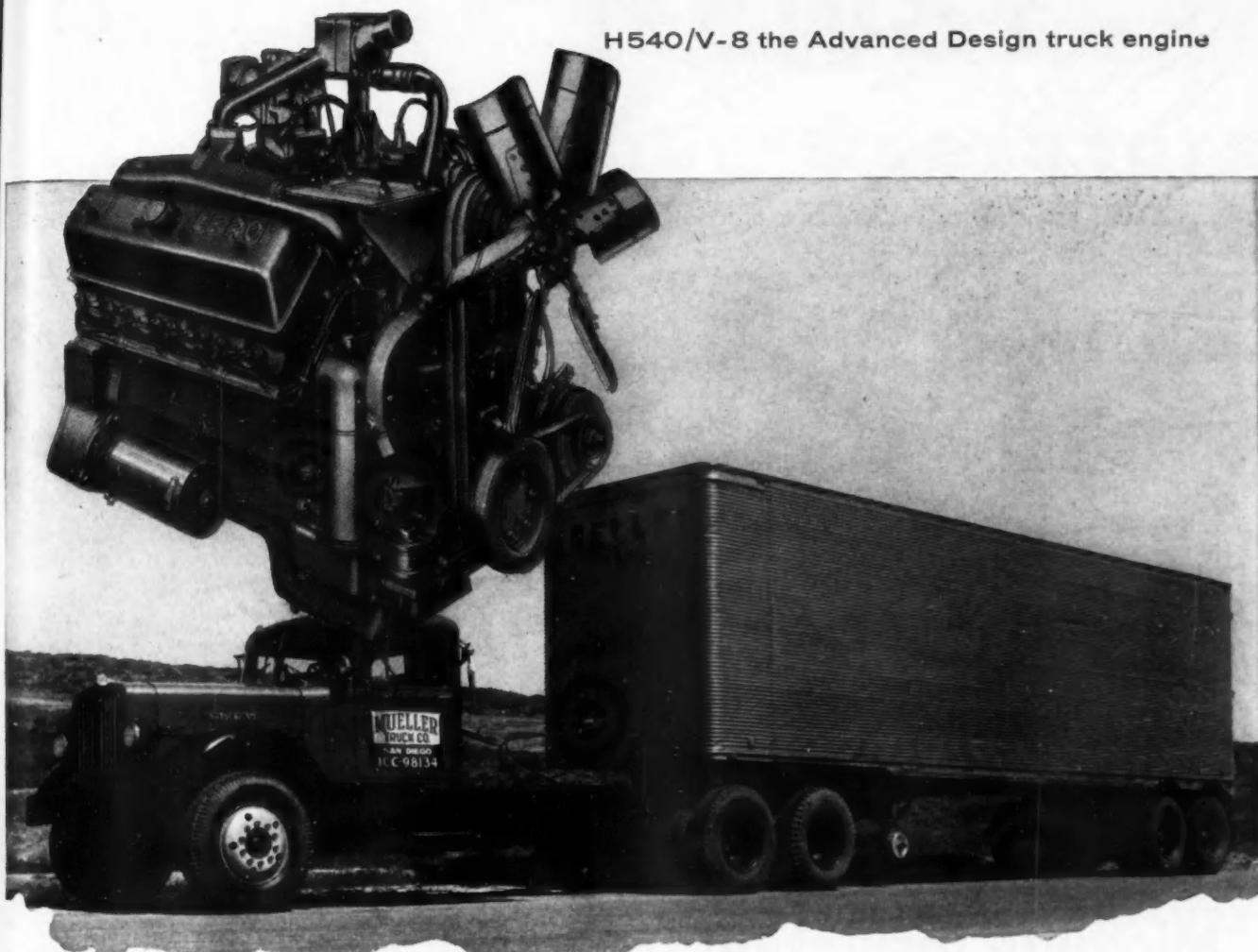
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COMMERCIAL CAR JOURNAL, August, 1955

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H540/V-8 the Advanced Design truck engine

Modern Money-saving Packhorse

... uses Le Roi's 200-hp, H540/V-8 Truck Engine
to move big payloads at low cost

One way to improve your profit picture is to haul more for less. And more than five years of service on some of the toughest hauling jobs in the country has proved that Le Roi's high compression, valve-in-head H540/V-8 lets you do it.

It's important to remember that the H540 was the very first V-8 available in the 200-hp class. It has been constantly improved since its introduction. Today you get a high-torque power plant in the H540 that gives

you amazing acceleration, good high-speed performance, and a smoothness of operation that's unmatched. No other engine of this rating has been so thoroughly tested.

Because you can haul more for less, you should insist on Le Roi H540's in your new trucks. If you need more than 200 hp, we suggest the 300-hp H844/V-8. Send in the coupon below and we will send you literature that shows why the H540/V-8 has the dependability and performance that saves money.

E-108

LE ROI



Division of Westinghouse Air Brake Co.

Milwaukee 14, Wisconsin



I'm interested in learning why power-ing my next heavy-duty truck with

- 200-hp H540/V-8
- 300-hp H844/V-8

can give me better hauling profits.

I'm planning to buy _____

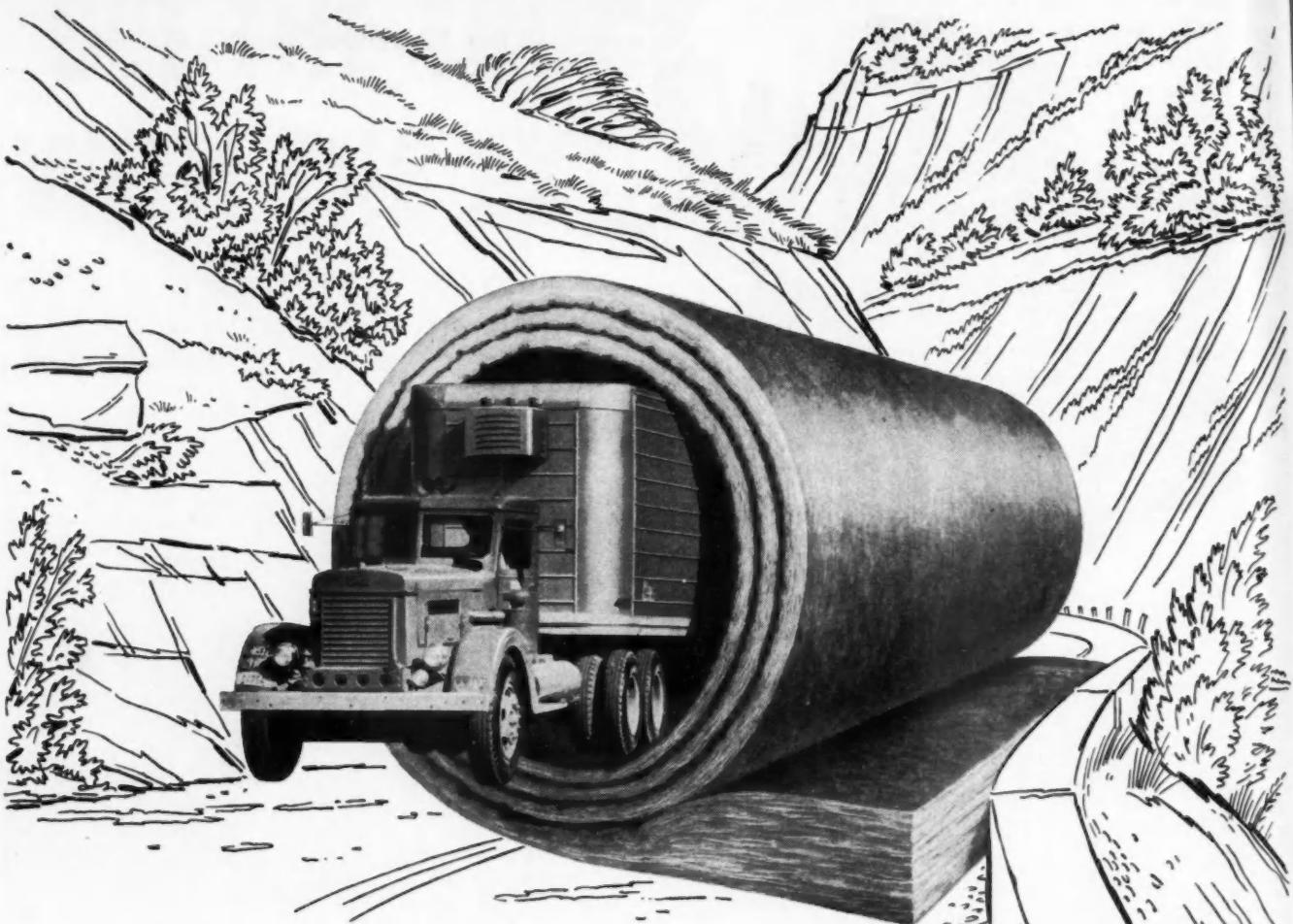
(Make of Truck)

Name _____ Title _____

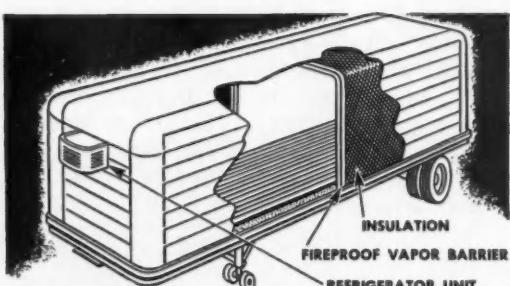
Company _____

Company Address _____

City _____ (____) State _____



Microlite Insulation takes the shakes "without Shaking down"



Microlite can be installed quickly and easily because it is so lightweight, soft and resilient. One man can handle a large section with ease. And happily, it doesn't itch either.

How many shakes per ton mile does a refrigerated truck body or trailer take? We don't know—but we do know it's too many if the insulation "shakes down". Settling compresses and mats the insulation, creating voids which impair efficiency.

Why does Microlite Glass Fiber Insulating Wool have such high—almost complete—resistance to "shake down"? Because it is formed of extremely long, uniform glass fibers which imprison millions of tiny air cells. Microlite is actually about 5% glass and 95% air. This remarkable wedding of glass and air not only makes Microlite one of the most effective of all insulating materials but is responsible for the high resilience and elasticity which are the secret of its resistance to settling. And it is made possible by L-O-F Glass Fibers' own Electronic-Extrusion process. No other producer of glass fibers uses this process. Whether you are a fleet owner or a truck manufacturer you should learn more about Microlite. For an illustrated, informative 4-page folder and samples, write to L-O-F Glass Fibers Co., Dept. 34-85, 1810 Madison Ave., Toledo 1, Ohio.

L-O-F
GLASS FIBERS

Makers of glass fibers by the exclusive "Electronic-Extrusion" process

L-O-F GLASS FIBERS COMPANY
TOLEDO 1, OHIO



Four Wh...
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501 engine...
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by Four ...
RD-501.



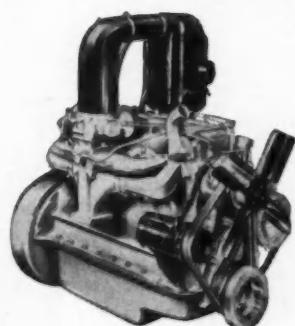
HOLLEY CARBURETOR COMPANY • VAN DYKE, MICHIGAN



Among the Four Wheel Drive truck models with new power plants is this 1955 model No. 222.

Four Wheel Drive Models Offer New Power Plants

Seven new truck engines are now being used by The Four Wheel Drive Auto Company to power their line of heavy duty trucks. Horsepower ratings range from 131 hp on the SD-240 all the way up to 201 hp. Holley carburetors are standard equipment on each of these models. Holley's famous 1904 glass bowl carburetor is used on both the 6 cyl. SD-240 and BD-282 engines; Holley carburetors with integral governors are original equipment on five of the seven engines; and the powerful RD-501 engine is equipped with the Holley 4-barrel truck carburetor—the first of its kind to be adopted by the industry!



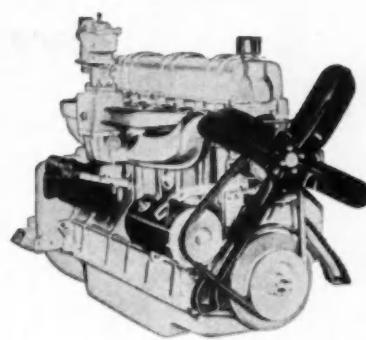
Among the new engines now being used by Four Wheel Drive is this powerful new RD-501.

NEWS for Fleet Operators

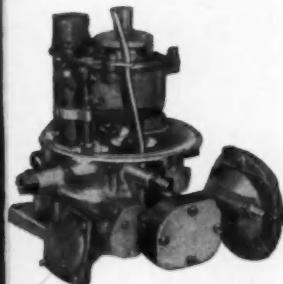
International Announces New Holley-Equipped Engine

International Harvester's new Black Diamond 264 engine develops 140 brake horsepower at 3800 rpm. Equipped with the famous Holley 1901FF carburetor, the new 6 cylinder valve-in-head engine has 264 cubic inches displacement, 3-11/16" bore and 4-1/8" stroke. The Holley 1901FF carburetor used in this engine is the famous "true concentric" with all important metering parts located at the center line of the fuel bowl.

International Harvester's new 264 Black Diamond engine develops 140 brake horsepower at 3800 rpm.



NEW HALL-SCOTT ENGINE FEATURES 4-BARREL HOLLEY CARBURETOR



This heavy duty truck is powered by the Hall-Scott model 590 engine. The famous Holley 4-barrel carburetor, the first to be used by the truck industry, is original equipment on this engine.

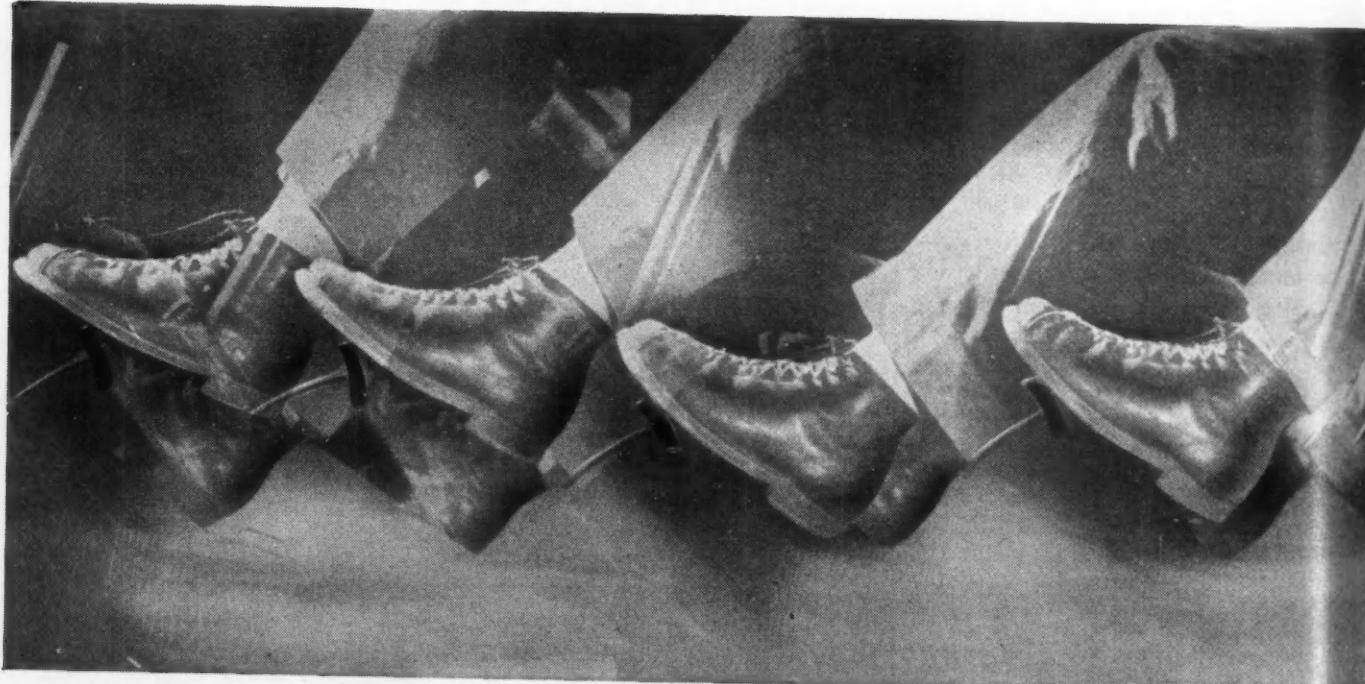
Hall-Scott's new 590 engine weighs less than 1300 pounds and delivers more than 200 horsepower. Its compact design develops in excess of one horsepower per six pounds of engine weight in an over-all length of only 49-1/4". The model 590-GV3 is equipped with Holley's famous 4-barrel truck carburetor—Model 2140G. This Holley model is equipped with an integral vacuum type governor. The bare engine horsepower of the 590-GV3 is 232 at 2800 rpm. The maximum torque is 490 at 1600 rpm.

Holley Carburetor Company

11955 E. Nine Mile Road
Van Dyke, Michigan

FOR MORE THAN HALF A CENTURY ORIGINAL EQUIPMENT MANUFACTURERS FOR THE AUTOMOTIVE INDUSTRY

how much does it cost you to keep the clutch pedals?



See GM Diesels at work at the
GENERAL MOTORS POWERAMA
Lake Shore Drive, next to Soldier Field, Chicago
August 31 through September 25

The figures are of all those drivers who all overhauls work on axles. And remember of your production trucks you've drivers have These costs are With self-service expenses - better truck-life to And you can effort-saving - in 65 new GCW - in 7 two-cylinder GCW - in 15 new 55,000 GCW - in 9 c.o.e. 70,000 GCW - in 9 rugged to 70,000 GCW - teamed with sixes, V8's - in Blue C - improved Get full details GMC dealers *Hydra-Matic some others GMC TRUCKS



The figures are right on your books. Just add the charges of all those clutch replacements — of all their repairs — of all overhauls of overtaxed engines — of all the extra service work on axles and drive-lines damaged by shock-load starts.

And remember — these "fixed" costs are eating chunks out of your profits no matter what kind of standard-shift trucks you use or how much clutch-and-shift skill your drivers have.

These costs will shrink with Hydra-Matic GMC's*

With self-shifting GMC's, you not only reduce those expenses — but cash in on reduced down time and longer truck-life to boot.

And you can now have all Hydra-Matic's timesaving — effort-saving — truck-saving advantages ...

- in 65 new Blue Chip models ranging up to 70,000 GCW
- in 7 two-cycle Diesel models from 30,000 GVW to 70,000 GCW
- in 15 new dual-purpose cab models from 16,000 GVW to 55,000 GCW
- in 9 c.o.e. "Stripaway" models from 32,000 GVW to 70,000 GCW
- in 9 rugged new tandem-axle models from 28,000 GVW to 70,000 GCW
- teamed with a wide choice of Blue Chip power plants — sixes, V8's and Diesels — from 125 to 230 h.p.
- in Blue Chip GMC's with greater-than-ever ruggedness
- improved turning ability

Get full details on any one of them — right now — at your GMC dealer's!

**Hydra-Matic standard on many models; optional at extra cost on some others*

GMC TRUCK & COACH — A General Motors Division



Is?

Hauling more than 7,000 dozen assorted novelties in 26-foot trailers to ice cream manufacturers within a 150-mile radius, Edgewood Dairy Products of Evansville, Indiana, uses Kold-Hold Hold-Over Plates in combination with a Kold-Trux Mobilmatic unit to do the job. Products are kept in perfect shape.



**How to
select the
RIGHT
REFRIGERATION
for your trucks**

Every refrigerated truck needs refrigeration fitted to the use of the truck. Your problem may be that of holding low temperatures in a delivery truck despite frequent door openings. Your problem may be that of supplying refrigeration for a truck that is out on the road an entire week. Your problem may be that of keeping proper temperatures just for short runs. But whatever your problem, Kold-Hold has solved one just like it at some time during its more than 20 years in the truck refrigeration field. So, to be sure of efficient, effective refrigeration for your trucks call on Kold-Hold for the right combination to fit your needs. They will give you your choice of Kold-Hold Mobilmatic units, mounted compressors or make-and-break systems combined with Kold-Hold "Hold-Over" plates, Light-duty plates, Serpentine Quick-Action plates or Hydro-Pack Blowers. Write today for details.



Fritts Packing Company of Lexington, North Carolina, has turned to Kold-Trux Mobilmatic systems for its trucks. The Kold-Trux system combined with Kold-Hold Hold-Over plates provides efficient refrigeration at low cost. Body by Murphy Body Works, Inc., of Wilson, North Carolina.

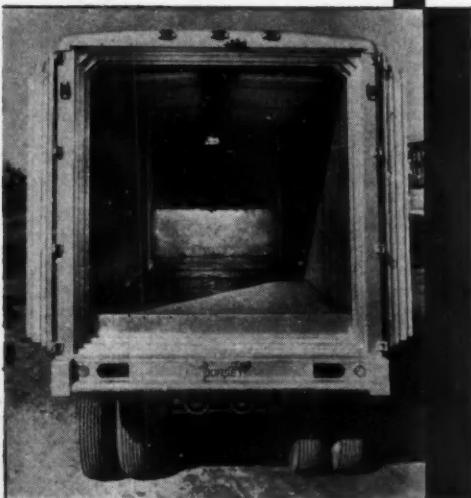
The E. Kahn's & Sons Company of Cincinnati, Ohio, has used Kold-Hold Hold-Over plates in their meat delivery trucks for more than 10 years. Kold-Hold equipment now is installed in 16 of the firm's units.



Kold-Hold Hold-Over plates are used by Dorsey Trailers of New York in refrigerator trailers shipped to Central America. Combined with mounted condensing units these plates provide sufficient refrigeration to offset the steaming temperatures that are a threat to food preservation in Central American countries.



7 ways to refrigerate your trucks and trailers are explained in the new Kold-Trux Catalog No. KT-155. Write for a copy today.



Look to Kold-Hold for latest developments in Truck Refrigeration

KOLD-HOLD®

division

TRANTER MANUFACTURING, inc., 620 E. Hazel St., Lansing 4, Michigan



Leading fleets across the nation depend on Thermoid for safe stops

Thermoid Brake Blocks are used by fleets from coast to coast. They're the original equipment choice of leading bus and truck manufacturers. Compounded under Thermoid's exclusive Dry Mix Process, originally developed for heavy duty amphibious military vehicles, Thermoid Brake Blocks meet the most rigid stopping tests, regardless of weather conditions or operating temperatures.

Despite increased speed, power and congested traffic, you can rely on the long lasting dependability and economy of Thermoid Brake Blocks—designed for maximum safety at minimum cost per mile.

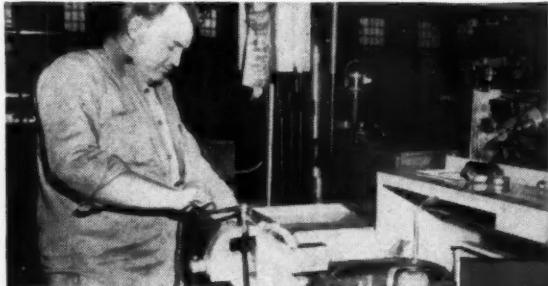


Thermoid Company • Trenton, New Jersey

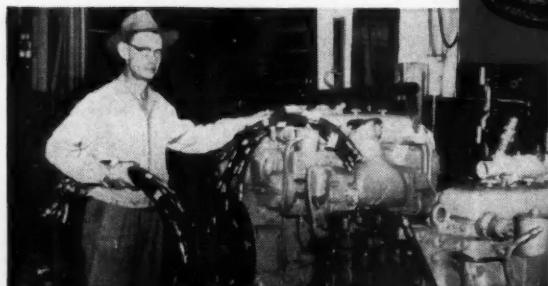
the standard of precision processing in
brake lining, brake blocks, hydraulic fluid,
cylinder assemblies, hydraulic brake parts.



Louisville Transit Company Speeds Maintenance, Simplifies Engine Conversion with Aeroquip Bulk Hose and Fittings



A mechanic at Louisville Transit Company's heavy maintenance shop assembles hose lines to be used on diesel engine conversions.



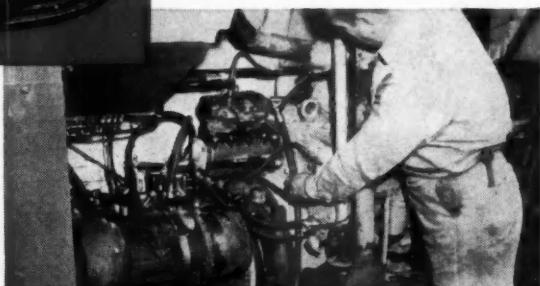
Foreman Fred Mullins holds a kit of 16 Aeroquip hose assemblies, used when converting Louisville buses from gasoline to diesel engine.



Make Aeroquip your replacement standard for diesel and gasoline fuel lines, too. See your distributor or write direct.

Louisville Transit Company, 4-times winner of Bus Maintenance Awards, has standardized on Aeroquip hose lines for shop maintenance and for diesel conversion engines.

Maintenance foreman Fred Mullins says, "Aeroquip is ideal for conversion and heavy maintenance work. We have 381 buses working and I have never seen an Aeroquip hose break or pull loose from fitting."



All fuel, air and water lines being installed on this diesel engine were made up from Aeroquip bulk hose and reusable fittings.

Aeroquip
REG. TRADEMARK

AEROQUIP CORPORATION, JACKSON, MICHIGAN

LOCAL REPRESENTATIVES IN PRINCIPAL CITIES IN U.S.A. AND ABROAD • AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD



No. 552

A COMPLETE



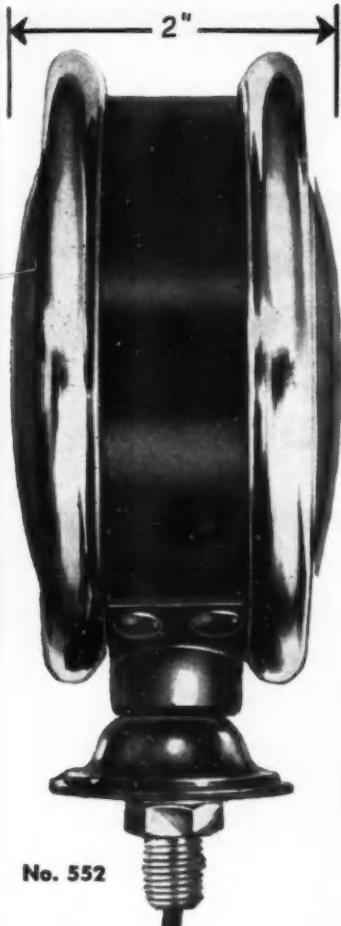
551—Single
for fender m



551-LR—Single
L-bracket for re



551-FR—Full



No. 552

A COMPLETE SERIES OF DIRECTION SIGNALS
NOW AVAILABLE



551—Single-faced
for fender mounting.



551-SF—Semi-flush
mounting.



551-LR—Single-faced with
L-bracket for rear mounting.



3758—Self-Cancelling
Switch



3800—Full Manual
Control Switch

Never fail, lifetime switch assemblies.
Rugged construction. Examined by
AAMVA and approved by states requiring
approval.



551-FR—Full flush-mount.

Griffin's new Class A, double-faced model shoots an amber signal forward and a red signal to the rear *with one bulb and a single set of wires!*

It's thin—barely two inches deep—because the Stimsonite-Lucite lens *requires no reflector*. Color is stable and the lens is optically accurate. All-steel black enameled housing with stainless steel trim rings makes it both sturdy and smart.

The 550 Series signal kit includes lamps, fuse assembly, current interrupter, wire and self-cancelling switch. A complete line of signal lamps (shown above) for any type of installation are now available through your Griffin wholesaler.

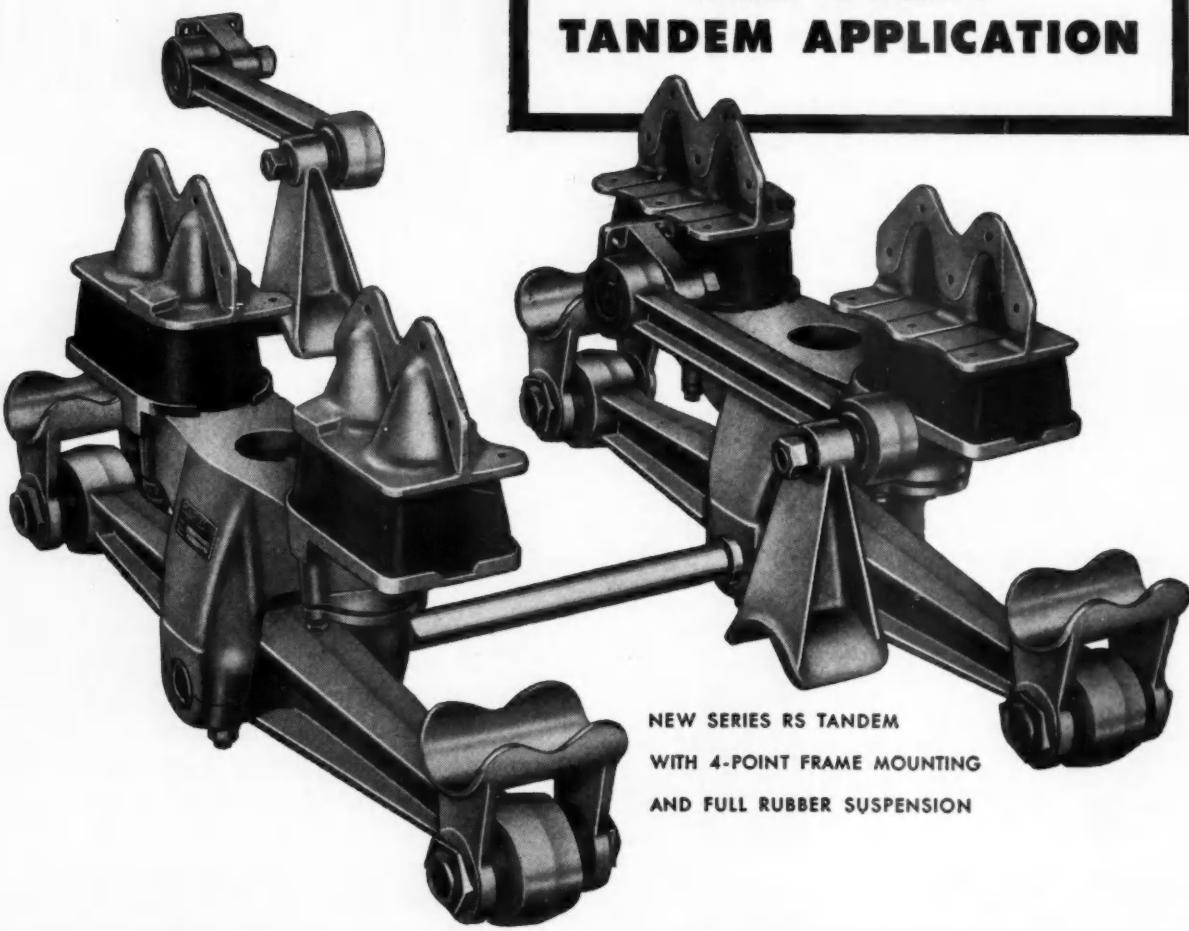
THE GRIFFIN LAMP COMPANY • HAMILTON, OHIO

WAREHOUSES—736 East Washington Blvd., Los Angeles, California
440 Golden Gate Ave., San Francisco, California
37 Leon Street, Boston, Massachusetts
308 Ninth Avenue, North, Seattle, Washington



HENDRICKSON TANDEM

ONE BASIC DESIGN
PROVEN RIGHT
FOR EVERY
TANDEM APPLICATION



NEW SERIES RS TANDEM
WITH 4-POINT FRAME MOUNTING
AND FULL RUBBER SUSPENSION

SIMPLICITY OF DESIGN minimizes the number and total weight of component parts and increases the functional performance of each part.

PARALLELOGRAM FORM permits extreme flexibility while keeping the axles parallel to each other and the wheels parallel to the frame.

EQUALIZING BEAMS assure equal distribution of the load between the axles regardless of road or load conditions.

SPECIFY HENDRICKSON

TORQUE RODS reduce the tendency of the axle housings to rotate due to starting or braking action.

RUBBER BUSHINGS at all points of wear prolong life and reduce lubrication needs.

The famous family of Hendrickson Tandems

are produced by the Hendrickson Manufacturing Co.,
8001 W. 47th Street, Lyons (Chicago Suburb) Illinois.

first NAME IN TANDEMS



Double Drive Six Wheel Truck



Trolling Axle Six Wheel Truck



Double Drive Six Wheel Tractor



Trolling Axle Six Wheel Tractor
(Pusher Type)



Tandem Axle Semi-Trailer



Six or Eight Wheel Full Trailer



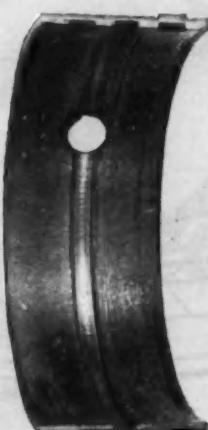
Portable Special Machinery



Six Wheel Crane Carrier

these two
UNRETOUCHED
photos tell you a
convincing story

**THIS
NEW LOOKING
BEARING IS A
FAMOUS
THOMPSON
CL-77
AFTER
176,000 MILES**



THE above unretouched photographs show the clear-cut superiority of Thompson's CL-77 over ordinary heavy-duty bearings. Notice the absence of pock marks on the Thompson bearing . . . even after 176,000 miles of heavy hauling on good roads and bad, in all kinds of weather.

Exacting micrometer tests showed the wear on the entire set of Thompson bearings to be less than one-half of one-thousandths of an inch!

UNUSUAL? No, not for Thompson CL-77 heavy-duty bearings! Many other authenticated records in our service files show CL-77 bearings that have gone up to half-a-million miles before being replaced.

The Thompson CL-77 copper lead overplated bearing has gained a wide preference in the field of heavy-duty engines. One of the reasons for its amazing wearing qualities is Thompson's patented process of applying nickel between the copper-lead and tin-lead overplate.

For your heavy-duty requirements be sure to replace only with Thompson CL-77's . . . the bearings that leading truck and tractor manufacturers specify for original equipment!



**THIS WORN
POCK-MARKED
BEARING
IS NOT
A THOMPSON
BEARING**

Typical of premature failures experienced by Indianhead Truck Lines with competitive "Heavy-Duty" bearings. Indianhead has since used Thompson CL-77 Bearings, exclusively.

The Thompson CL-77 bearing shown above is typical of a complete set of rod and main bearings removed from the engine of a tractor-trailer operated by the Indianhead Truck Line of St. Paul, Minnesota. The Indianhead Truck Line enjoys an enviable reputation from coast-to-coast for dependability and fine maintenance records.



This complete set of Thompson CL-77 bearings saw 176,000 miles of heavy-duty service in a 6 cylinder International Harvester LF195 (Red 450 Engine), one of the most popular heavy-duty automotive engines in the world. They were originally installed on a crankshaft which had been reground to .010" undersize. Bearing wear after 176,000 miles did not exceed .001 on any shell; most showed less than .0005; some showed no measurable wear! As engine had been pulled down for cylinder and valve overhaul, these bearings were replaced with new Thompson CL-77's, although the old ones obviously would have run many thousands of additional miles.



See your
Thompson
Products Jobber

THOMPSON SERVICE SALES
2209 Ashland Road • Cleveland 3, Ohio

★ ONE OF THE 1955 PARADE OF NEW "OK" PRODUCTS ★



You've never seen

an enamel primer
dry this fast before . . .
and with so much holdout!

NEW KEM "JET-SEAL"® PRIMER SEALER

E2 R 27 (RED) E2 A 28 (GRAY)

- ★ SUPERFAST DRYING—like lacquer!
- ★ SUPER HOLDOUT and depth for color coats
- ★ DRIES FLAT—no sanding
- ★ MORE COVERAGE with less material

Ask about all these 5 new star performers!

- ★ NEW OPEX® "SPEED-FILL"® PRIMER-SURFACER
- ★ NEW KEM "JET-SEAL" PRIMER-SEALER
- ★ NEW KEM "FLO-GLO"® REDUCER
- ★ NEW OPEX "POTENT" CONCENTRATE
- ★ NEW OPEX "SPOT-SOLV" LACQUER REMOVER Trade-Mark

Ever wish you could work as fast with synthetic enamels as you can with lacquers? This new KEM "Jet-Seal" Primer-Sealer will let you come closer to it than you ever have before!

Spray it on—it dries flat—and in 30 minutes *or less* you can tack and coat it! Most important, it gives you a new high degree of holdout for color coats that creates new depth and richness of color in the finished job.

You'll find "Jet-Seal" Primer-Sealer E2 R 27 goes a lot further, too. Reduced with equal parts of Sherwin-Williams No. 49 or 75 Reducer, a quart is usually sufficient for the average vehicle.

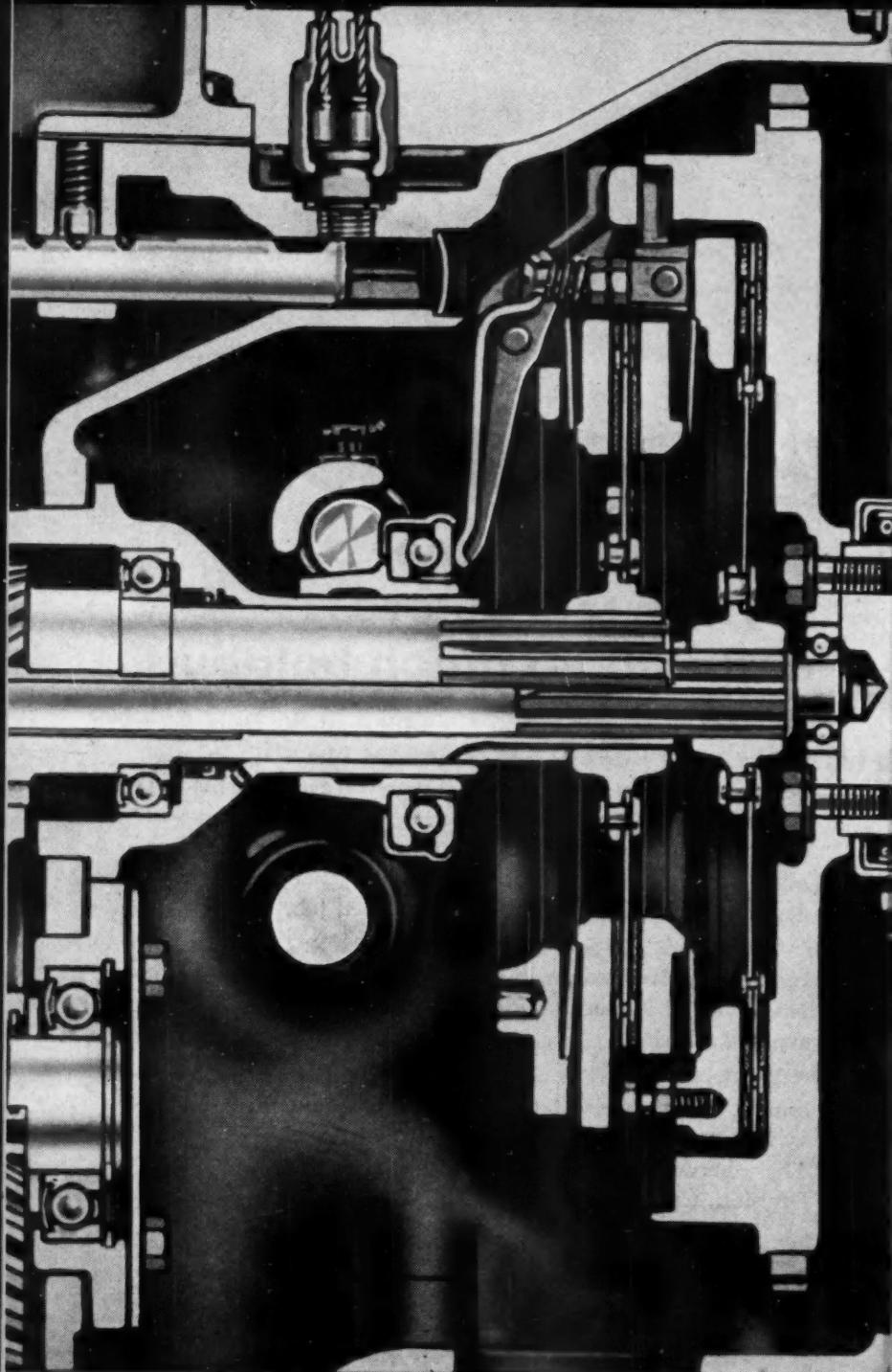
You won't believe it until you see it! Call your OK automotive jobber today—try this NEW, economical, time-saving Primer-Sealer on your next job!
The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio.

SHERWIN-WILLIAMS
AUTOMOTIVE FINISHES

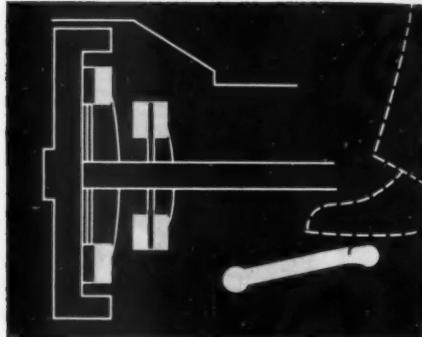


DANA ANNOUNCES NEW **Spicer**

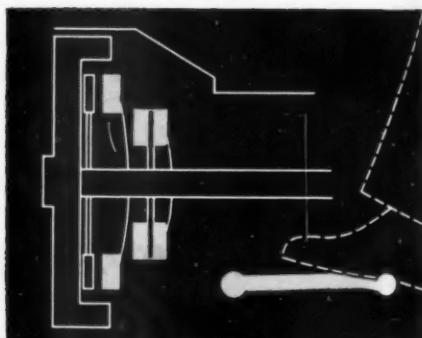
Gives Operator ONE-PEDAL Control of Both



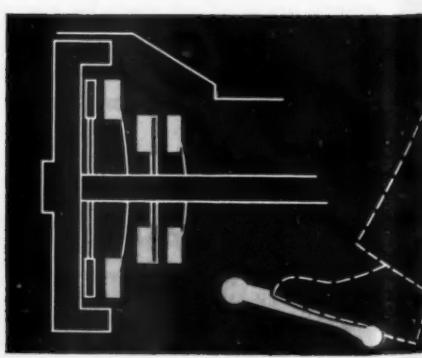
The "2-Stage Clutch with the Built-In Feel" designed by Spicer for the Ferguson 35



1. Both transmission and power take-off are fully engaged when clutch pedal is up.



2. Pedal half way down disengages transmission only. PTO continues to operate.



3. Pedal all the way down disengages both transmission and PTO.

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The Dana
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These clutch
that assure

Ask Spicer
transmission

DANA CORPORATION • TOLEDO 1, OHIO

SPICER PRO
TORQUE CONVE
DRIVES • RAILWA



TRACTOR CLUTCH

of Both Transmission and Power Take-Off!

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guson 35

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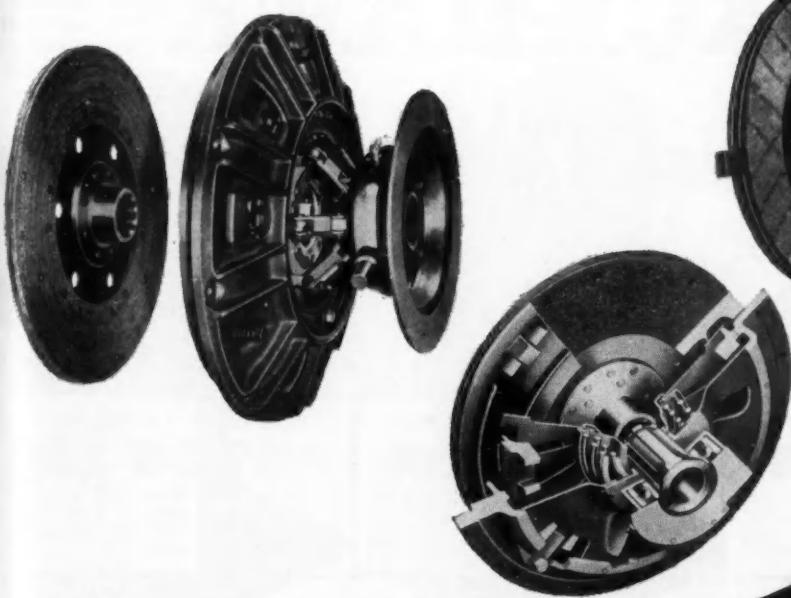
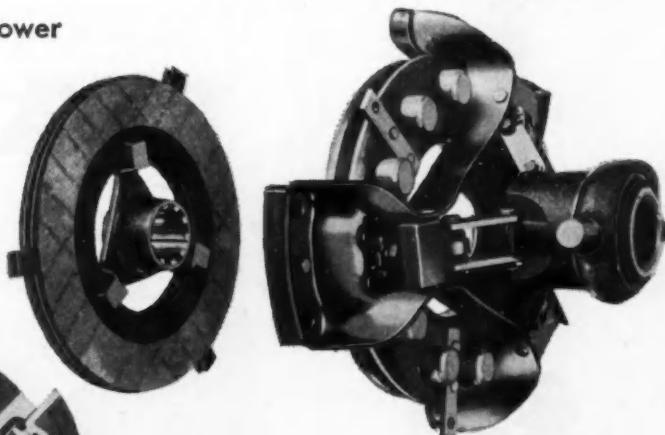
This new Spicer Clutch . . . developed by Dana engineers for the Ferguson 35 Tractor . . . assures farmers of increased safety and efficiency. They can operate such machines as the baler, mower, corn picker, forage harvester continuously regardless of tractor starts and stops.

Since the left foot of the operator gives complete control over both tractor motion and PTO, both hands are entirely free for steering, gear changes, and other driving requirements. See details of clutch mechanism and operation at left.

This new 2-Stage Clutch is another engineering advancement made possible by the wealth of Spicer experience in power transmission problems, and by research and development facilities unexcelled in the industry.

The Dana Corporation offers clutches of many types for automotive, tractor and industrial power transmission needs. These clutches embody advancements and exclusive features that assure outstanding performance in the field.

Ask Spicer engineers to help solve your particular power transmission problems.

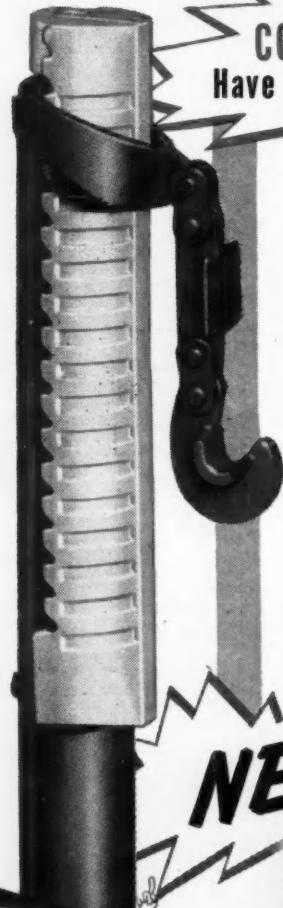


SPICER PRODUCTS: TRANSMISSIONS • UNIVERSAL JOINTS • PROPELLER SHAFTS • AXLES •
TORQUE CONVERTERS • GEAR BOXES • POWER TAKE-OFFS • POWER TAKE-OFF JOINTS • RAIL CAR
DRIVES • RAILWAY GENERATOR DRIVES • STAMPINGS • SPICER AND AUBURN CLUTCHES • PARISH FRAMES

Now for every job and a modern G.V.W. Bla

COMPARE! New low prices!

Have you checked jack prices lately?



NEW

Model J-19

1½ TON

Coll. Hgt. $21\frac{1}{16}$ "
Hyd. Lift $19\frac{1}{2}$ "
Low Toe Hgt. $3\frac{3}{8}$ "
Adj. Hgt. $14\frac{1}{2}$ "
Max. Hgt. $40\frac{15}{16}$ "

Model TC-7

1½ TON
Low Hgt. $7\frac{1}{2}$ "
Hyd. Lift $5\frac{3}{4}$ "
Screw Ext. $2\frac{1}{2}$ "
Max. Hgt. $14\frac{1}{2}$ "

Model BA-8.5

3 TON
Low Hgt. $8\frac{1}{4}$ "
Hyd. Lift $5\frac{1}{2}$ "
Screw Ext. $3\frac{1}{2}$ "
Max. Hgt. $18\frac{1}{2}$ "

Model AA-8.5

5 TON
Low Hgt. $9\frac{1}{2}$ "
Hyd. Lift $6\frac{1}{4}$ "
Screw Ext. $4\frac{1}{2}$ "
Max. Hgt. $19\frac{1}{4}$ "

Here's the "Brave" — today's most practical bumper jack! Lifts all cars. Offers many important exclusives!

The rugged new "Warrior" is big favorite among fleets ... for pick-up trucks and other light vehicles.

The popular choice for light buses—and for general service around the service shop.

The medium-duty G.V.W. model. For shop or road. Like all Blackhaws, has a wide margin of safety.

G.V.W. Bla

Discover why it pays to
**STANDARDIZE
ON BLACKHAWK**

An interesting desk-top demonstration will be made at your request — to prove why you'll be way ahead by always buying Blackhawk Hydraulic Jacks. Your Blackhawk jobber will be glad to give you this eye-opening "Jack-In-a-Pak" demonstration of why a Blackhawk "outlives the truck it lifts."

A Product of
BLACKHAWK
MFG. COMPANY
Milwaukee 46, Wis.
Dept. J.

Here's why B
LAST L
and are so
TROUB

Take a look at
and you'll spo
why Blackhawk
among fleets th

These and m
up to give you
Remember —
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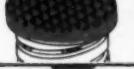
The lead
trucks, tra
Most popul
ever built!

Load vehicle there's Blackhawk Jack!

Here's why Blackhawk Jacks
LAST LONGER
and are so
TROUBLE-FREE

Take a look at this "Jack Box Score" and you'll spot many of the reasons why Blackhawk is the big favorite among fleets that keep records on jacks.

These and many other features add up to give you more for your money. Remember — there's a big difference in jacks — and today it costs no more (or even less) to own the best . . . and that's a Blackhawk!

JACK BOX SCORE ... among the three jack lines most sold to fleets				
BLACK-HAWK	LINE X	LINE Z		
	MACHINED STEEL PUMP HOUSING — Guarantees longer life because pump cups operate within a smooth micro-finish steel cylinder (NOT in a hole bored in the base casting). Pump-on-side design allows load to center on base.	YES	NO	NO
	MALLEABLE IRON TOP CAP — Greater strength to withstand off-center loading — gives rigidity to entire jack — prevents leakage.	YES	NO	YES
	CROSS-MILLED HEAT-TREATED SADDLE — A safe, sure grip on greasy, icy axles at all times. Teeth stay sharp as a hound's tooth — never wear smooth like ordinary saddles.	YES	NO	NO
	REPLACEABLE PUMP ASSEMBLY — The parts that get the most wear. Complete cost only \$2.06 — can be replaced in the field with ordinary wrench. Screws in like a light bulb. (Pump is not part of a costly base casting.)	YES	NO	NO
	68% INTERCHANGEABILITY OF WORKING PARTS — Applies to all models 1½ to 20 tons. Assures lower maintenance and repair costs — faster service if repairs should become necessary.	YES	NO	NO



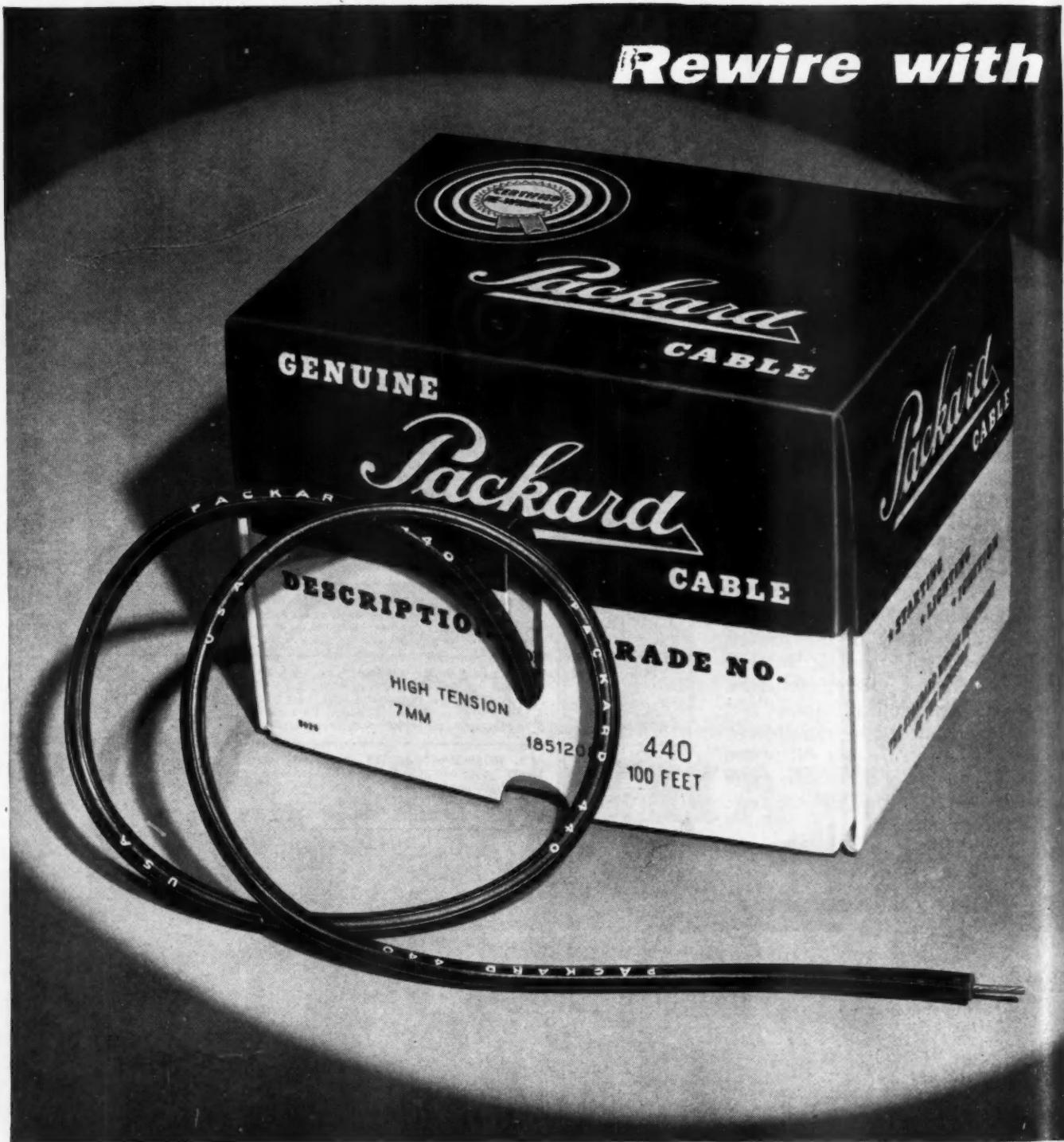
The leader for heavy trucks, trailers and buses. Most popular tool box jack ever built!

For emergency road service on extra-heavy buses and trucks. The most widely used shop jack.

For grueling shop service on trucks, buses and trailers. Standard high lift model also available (lifts to 49½").

Do a first-class job

Rewire with



THE CABLE THAT'S BETTER 7 WAYS

1. Better HEAT Resistance
2. Better COLD Resistance
3. Better OIL Resistance
4. Better MOISTURE Resistance
5. Better ABRASION Resistance
6. Better CORONA Resistance
7. Better AGE Resistance

with a first-class cable

PACKARD FOUR-FORTY CABLE

Packard's best selling Ignition Cable

Operators often wonder why there are so many different types of ignition cable on the market. While color preference has been responsible for the use of a number of high-tension cables for years, no one cable possessed the characteristics to meet fully all conditions of operation. Since all conditions are present to some degree, any cable an operator chose could not be 100 per cent satisfactory.

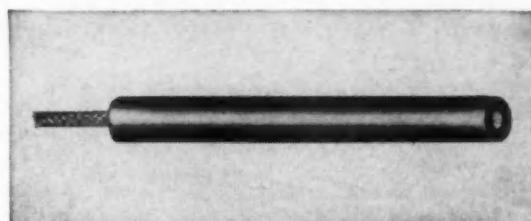
Packard Electric engineers experimented with hundreds of formulas until compounds and methods were found which produced a cable possessing the balanced characteristics needed to meet all normal conditions of operation.

The "Four-Forty" cable they developed has enjoyed a record of performance no other cable has matched! Packard "Four-Forty" insulation seals in the high voltage surge to the spark plugs—the outer sheath protects against life destroyers such as corona, abrasion, moisture, oil, age, cold and heat—the result is BALANCED CHARACTERISTICS for longer cable life, more dependable ignition performance.

Packard "Four-Forty" ignition cable is accepted by maintenance men throughout the country as the most satisfactory, longest lasting ignition cable on the market. Check with your Packard supplier about it—and also ask about these other two members of Packard's "Big 3" in the cable business . . .



PACKARD BATTERY CABLES—used on more new cars, trucks, buses, and tractors than any other make. Now Packard LEADALLOY battery cables are insulated with Packard's new "809" compound—positive protection against acid, grease, oil and heat. All Packard battery cables deliver full starting power—all enjoy wide acceptance everywhere.



PACKARD TELEVISION-RADIO SUPPRESSOR IGNITION CABLE—recommended where ignition interferes with radio and television reception. Used to suppress interference in two-way communication systems in automotive, marine, aircraft and other applications. Supplied in kits and factory-made sets.



Packard Electric Division, General Motors, Warren, Ohio

A GENERAL MOTORS PRODUCT  A UNITED MOTORS LINE

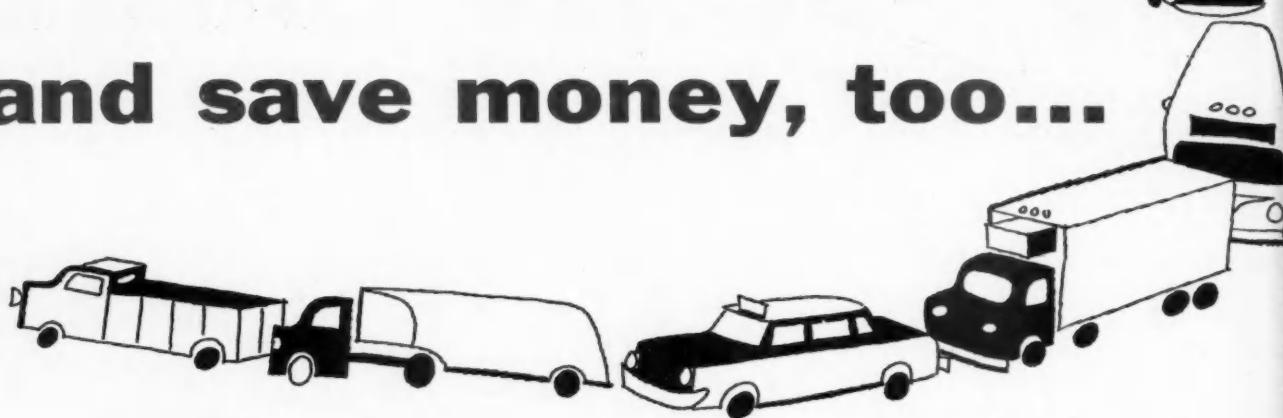
DISTRIBUTED BY WHOLESALERS EVERYWHERE

FOREMOST BUILDER OF AUTOMOTIVE WIRING



Keep 'em rolling...

and save money, too...



with "PRESTONE"
BRAND ANTI-FREEZE



- 1 **Your vehicles keep rolling** with "Prestone" brand anti-freeze! No time or money wasted on repairs to your vehicles damaged by the loss of boil-away anti-freeze.
- 2 **Save on maintenance** with "Prestone" anti-freeze. There's no need for continual testing — no costly refills. One shot lasts all winter.
- 3 **Save on corrosion damages!** Exclusive *Polar Film* inhibitor in "Prestone" anti-freeze (*plus special chemical inhibitors*) gives cooling system extra protection against rust, corrosion and radiator-clogging.
- 4 **Save on long-distance trips!** Driving from cold to warm climates makes no difference to "Prestone" anti-freeze. Won't boil away, foam off or overflow.
- 5 **Save time and money!** No boil-away or overflow losses, whether idling, driving up steep grades or even plowing through snow with heavy loads.
- 6 **Get longer engine life** — higher driver efficiency! Leading truck manufacturers recommend using high-temperature thermostat and all-winter anti-freeze for top engine performance. Gives drivers better heating, too.

Save money mile after mile! Order "PRESTONE" BRAND... America's Number 1 Anti-Freeze

The terms "Prestone" and "Eveready" are registered trade-marks of Union Carbide and Carbon Corporation

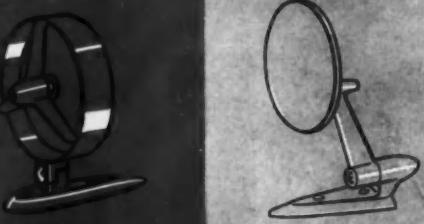
NATIONAL CARBON COMPANY • A Division of Union Carbide and Carbon Corporation • 30 East 42nd Street, New York 17, N.Y.

No. 78
ALUMINUM ARM
Deeply rece
(amber or red
lined two-pie
Screw holes m
ent heavier
3 c.p. bulb.

Write for ca
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fleet accesso

YANKEE MET

Norwalk, Conn



YANKEE'S "MIRRORS OF TOMORROW"

From the home
of America's
most popular
passenger car
mirrors
come the new

ALUMILINE

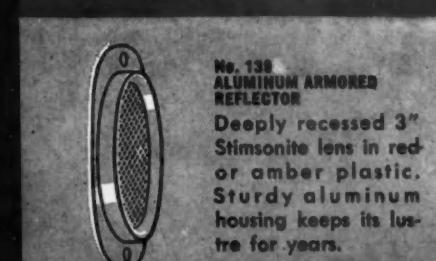
No. 78
ALUMINUM ARMORED CLEARANCE-MARKER LIGHT
Deeply recessed, thick plastic lens (amber or red) within a sturdy, streamlined two-piece aluminum housing. Screw holes match those of your present heavier clearance lights. Bright 3 c.p. bulb.



No. 130
ALUMINUM FLUSH REFLECTOR
Only $\frac{1}{16}$ " overall height. 3" red or amber wafer-thin Stimsonite unit designed for shallow installations.



No. 478 - 8" ALL ALUMINUM TRUCK MIRROR
Featherweight, clamp-on or bolt-on double-extension mirror. Extends from 13 $\frac{1}{2}$ " to 24 $\frac{1}{2}$ ". Head fully adjustable and replaceable.



No. 138
ALUMINUM ARMORED REFLECTOR
Deeply recessed 3" Stimsonite lens in red or amber plastic. Sturdy aluminum housing keeps its lustre for years.

fleet accessories by

Yankee

Here's lightweight, long-lasting aluminum, handsomely fashioned into gleaming fleet accessories by Yankee. No more ugly brown stains will mar the sides of trucks equipped with the rust-proof ALUMILINE.

Yankee's ALUMILINE costs no more than ordinary painted accessories — yet it's common knowledge that aluminum accessories last far longer. Another ALUMILINE plus: each truck carrying the required number of lamps, mirrors and reflectors in aluminum can add thousands of potential payload pounds during a year's hauling.

Save weight! Save money! Dress up those trucks! Replace with Yankee's ALUMILINE.

Write for catalog of
more than one thousand
fleet accessory items to

YANKEE

YANKEE METAL PRODUCTS CORP.
Norwalk, Connecticut

trips!
arm cli-
ence to
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w.

No boil-
whether
grades or
ow with

higher
g truck
d using
stat and
top en-
drivers

-Freeze

17, N.Y.
st., 1955



Best way to handle
all these
bearing jobs!

• Use Monmouth* bearings. There's a Monmouth Micro* or Clevite* 77 bearing to fit every type of vehicle shown here. And since Monmouth quality bearings are made by the same men, in the same plants as most of the original equipment, you'll have no installation problems and the bearings will last longer.

Don't miss any profits. Your nearby NAPA jobber offers service on a complete line of Monmouth engine bearings. Give him a call. Ask for the bearings in the orange and blue box.

*The words Monmouth, Clevite and Micro are registered trade marks of Clevite Corporation.

Monmouth

TRADE MARK

ENGINE BEARINGS

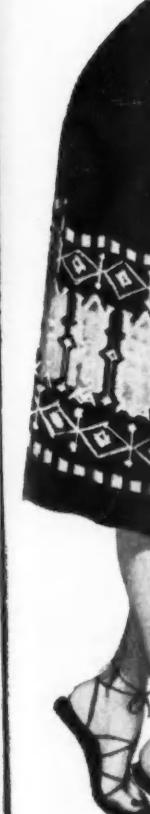
Clevite Service
The Cleveland Graphite Bronze Co.
Division of Clevite Corporation, Cleveland, Ohio, U.S.A.



Your
NAPA Jobber
is a Good Man
to Know!

"MISS

get



PAR
Get Mo

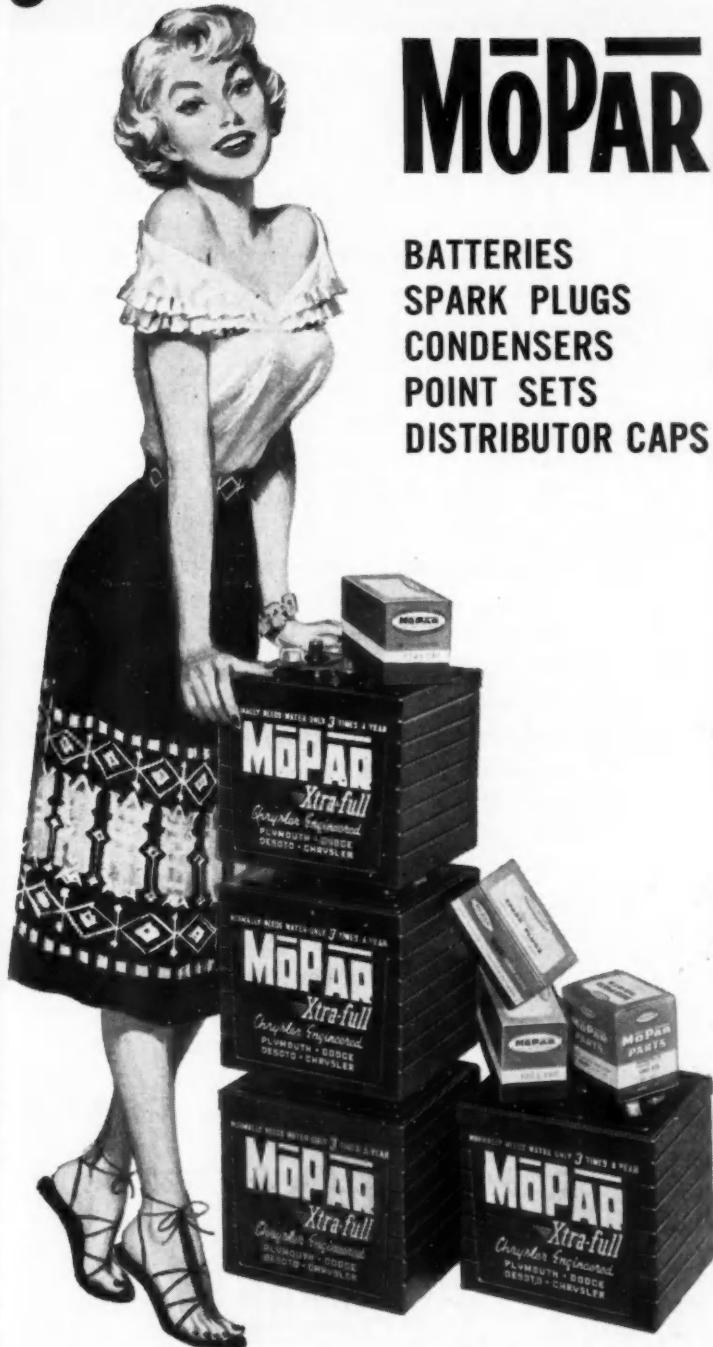
COMMERCIAL

"MISS MOPAR" SAYS:

get new-car vitality
WITH

MOPAR

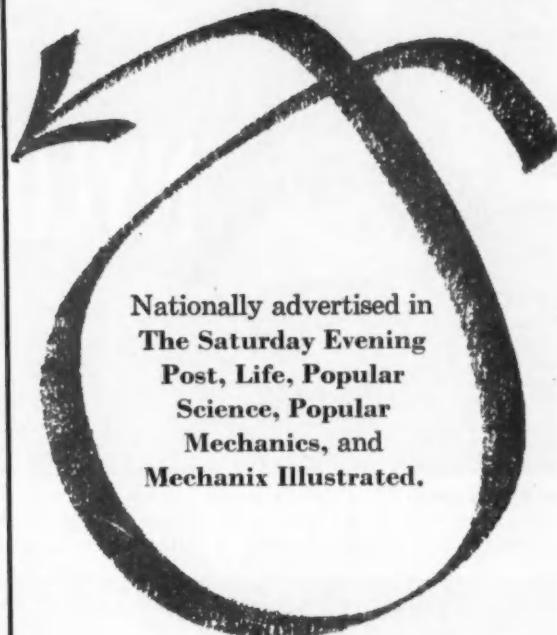
BATTERIES
SPARK PLUGS
CONDENSERS
POINT SETS
DISTRIBUTOR CAPS



MOPAR

PARTS DIVISION • CHRYSLER CORPORATION

Get MoPar parts from your Plymouth, Dodge, De Soto, or Chrysler dealer
and better general repair shops.



Nationally advertised in
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Post, Life, Popular
Science, Popular
Mechanics, and
Mechanix Illustrated.

NEW MOPAR
"DRY CHARGED" BATTERIES
ARE BEST
FOR YOUR FLEET!

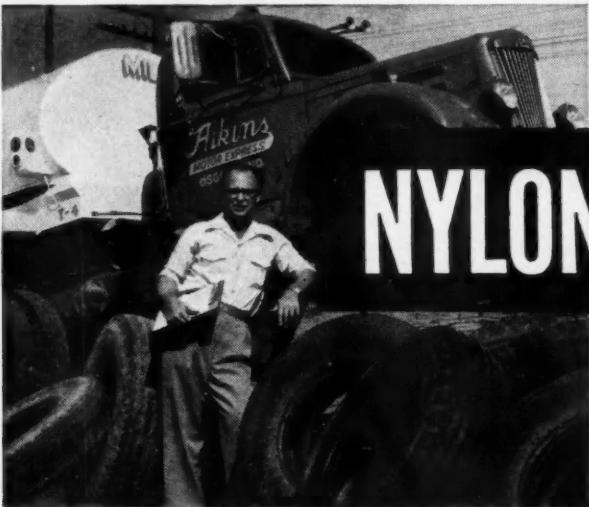
Here's why:

New MoPar batteries are "dry charged"—the electrolyte solution is not added until the battery is installed in your vehicle. Thus, no matter how long the battery has been stored, you get it with *every last minute of its full service life still intact!*

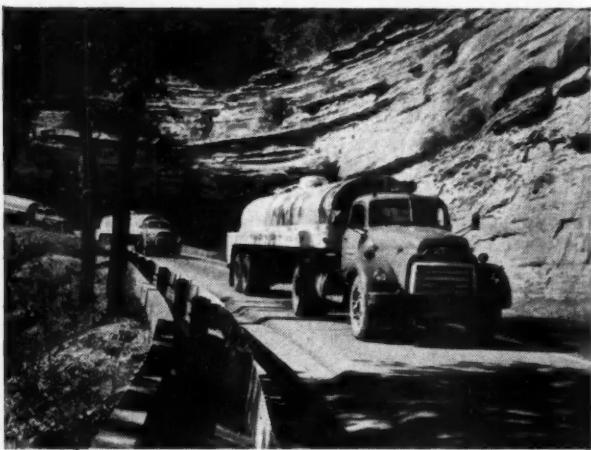
You'll find that MoPar "dry charged" batteries are ideal for storage at your own fleet headquarters. They will provide insurance against costly "down time."

**Remember MOPAR when
you need electrical parts!**

MoPar spark plugs, condensers, point sets, distributor caps, and batteries are *quality parts*. When installed in your fleet vehicles, they mean *top performance* that lasts longer! Get MoPar electrical parts—available at special fleet rates—from your nearby Plymouth, Dodge, De Soto, Chrysler dealer, or MoPar parts wholesaler.



MORE RECAPS. "We've already gotten 2 recaps from our nylon cords and expect more," reports Mr. Aikins. "At 30,000 miles per recap, that goes a long way in cutting costs per mile."



MORE MILEAGE. "Our records show nylon cord tires give over 200,000 miles of service, rolling 24 hours a day, 7 days a week, under loads averaging 24,000 lbs.," continues Mr. Aikins.



FEWER ROAD DELAYS. "Since switching to nylon cord tires, we haven't had one single road delay caused by tire trouble," reports Mr. Aikins. "That's an important advantage in speeding up service and maintaining our schedules."

Prominent midwest trucker finds:

NYLON CORD TRUCK TIRE

DU PONT and leading tire manufacturers worked together for ten years—experimenting, developing, testing—to perfect today's nylon cord tires. Now, truckers' actual experience proves that nylon gives the best protection against tire failure. Nylon cords guard against road delays . . . make possible tires that give longer recap life. Tires made with nylon cord give more mileage . . . lowest cost per mile.

Nylon cords are so tough they practically end cord ruptures when tires hit holes and bumps. Nylon cords are resilient—do not break under the twisting and flexing that take place every time a tire turns. Nylon not only takes the hottest temperatures a tire will ever encounter in normal highway operations, but actually runs 10° to 15° cooler. And damp rot of cord, which was once a major threat to tire life, is a thing of the past with nylon. Even if moisture seeps in through cuts to reach the cords, it doesn't damage nylon.

Prove to yourself that nylon cord tires give substantially lower cost per mile under any road or load condition. Ask your dealer about nylon cord truck tires today. Du Pont makes the tough, long-lasting nylon yarns which are used by rubber companies to make the tires that give the best protection against tire failure.

DU PONT NYLON for TIRE CORD



BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY

YOU'LL FIND NYLON IN PASSENGER-CAR TIRES, TOO!
Shock-absorbing nylon cords mean extra protection
against blowouts . . . greater safety on any road.

Dayton Steel
serviced and
by members of
Wheel & Rim

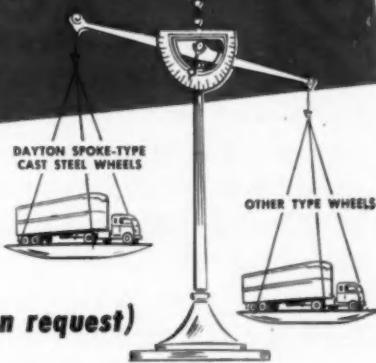
FOR TUBELESS TIRES...

Dayton spoke-type CAST STEEL WHEELS

**are 466.4 lbs. LIGHTER
than other type wheels!**



*The comparison is made
on a popular 5 ton model
tractor with a standard 18,000 lb.
axle tandem trailer (make and model of each given on request)*



DAYTON SPOKE-TYPE CAST STEEL WHEELS

TRACTOR FRONT WHEELS ON 8000 POUND AXLE

1 Spoke-type cast steel wheel and drum assembly.....	89.0 lbs.	1 Hub and drum assembly.....	117.0 lbs.
1—7.50 x 22.5 Drop center rim and adaptor.....	56.1 lbs.	1—7.50 x 22.5 Drop center wheel and rim.....	74.0 lbs.
1—11 x 22.5 Drop center tubeless tire.....	115.0 lbs.	1—11 x 22.5 Drop center tubeless tire.....	115.0 lbs.
	260.1 lbs.		306.0 lbs.

Dayton spoke-type cast steel wheel lighter than other type by 45.9 pounds per wheel

TRACTOR REAR WHEELS ON EATON 19501 AXLE

1 Spoke-type cast steel wheel and drum assembly.....	180.0 lbs.	1 Hub and drum assembly.....	209.0 lbs.
2—7.50 x 22.5 Drop center rims and adaptors.....	112.2 lbs.	2—7.50 x 22.5 Drop center wheel and rims.....	148.0 lbs.
2—11 x 22.5 Drop center tubeless tires.....	230.0 lbs.	2—11 x 22.5 Drop center tires.....	230.0 lbs.
	522.2 lbs.		587.0 lbs.

Dayton spoke-type cast steel wheel lighter than other type by 64.8 lbs. per wheel. Weight savings, cast wheel over other type 221.6 lbs. per truck. Additional weight savings in spare rim 17.9. Total weight savings per truck by using Dayton Spoke-type cast steel wheels 239.3 lbs.

TANDEM TRAILER WITH 18,000 POUND AXLES

1 Spoke-type cast steel wheel and drum assembly.....	160.0 lbs.	1 Hub and drum assembly (18,000 lb. axle—7" brake).....	176.5 lbs.
2—7.50 x 22.5 Drop center rims with adaptor.....	112.2 lbs.	2—7.50 x 22.5 Drop center wheel and rims.....	148.0 lbs.
2—11 x 22.5 Drop center tubeless tires.....	230.0 lbs.	2—11 x 22.5 Drop center tubeless tires.....	230.0 lbs.
	502.2 lbs.		554.5 lbs.

Weight savings, spoke-type over other type, 52.3 lbs. per wheel. Weight savings, spoke-type over other type, 209.2 lbs. per tandem trailer. Additional weight savings, spare rim and tire, 17.9 lbs. Total weight savings, spoke-type cast steel wheels over other type..... 227.1 lbs. per tandem trailer.



466.4 POUNDS TOTAL WEIGHT SAVINGS ON TRACTOR AND TRAILER WITH DAYTON WHEELS . . . THIS MEANS 466.4 POUNDS GREATER PAY LOAD!

WRITE TODAY, FOR WEIGHT SAVINGS ON YOUR UNITS WITH DAYTON SPOKE-TYPE CAST STEEL WHEELS, GIVE MAKE AND MODEL OF TRACTORS AND TRAILERS IN QUESTION!

The Dayton Steel Foundry Co.

DAYTON 1, OHIO

SERVING THE MOTOR TRANSPORTATION INDUSTRY FOR 50 YEARS!

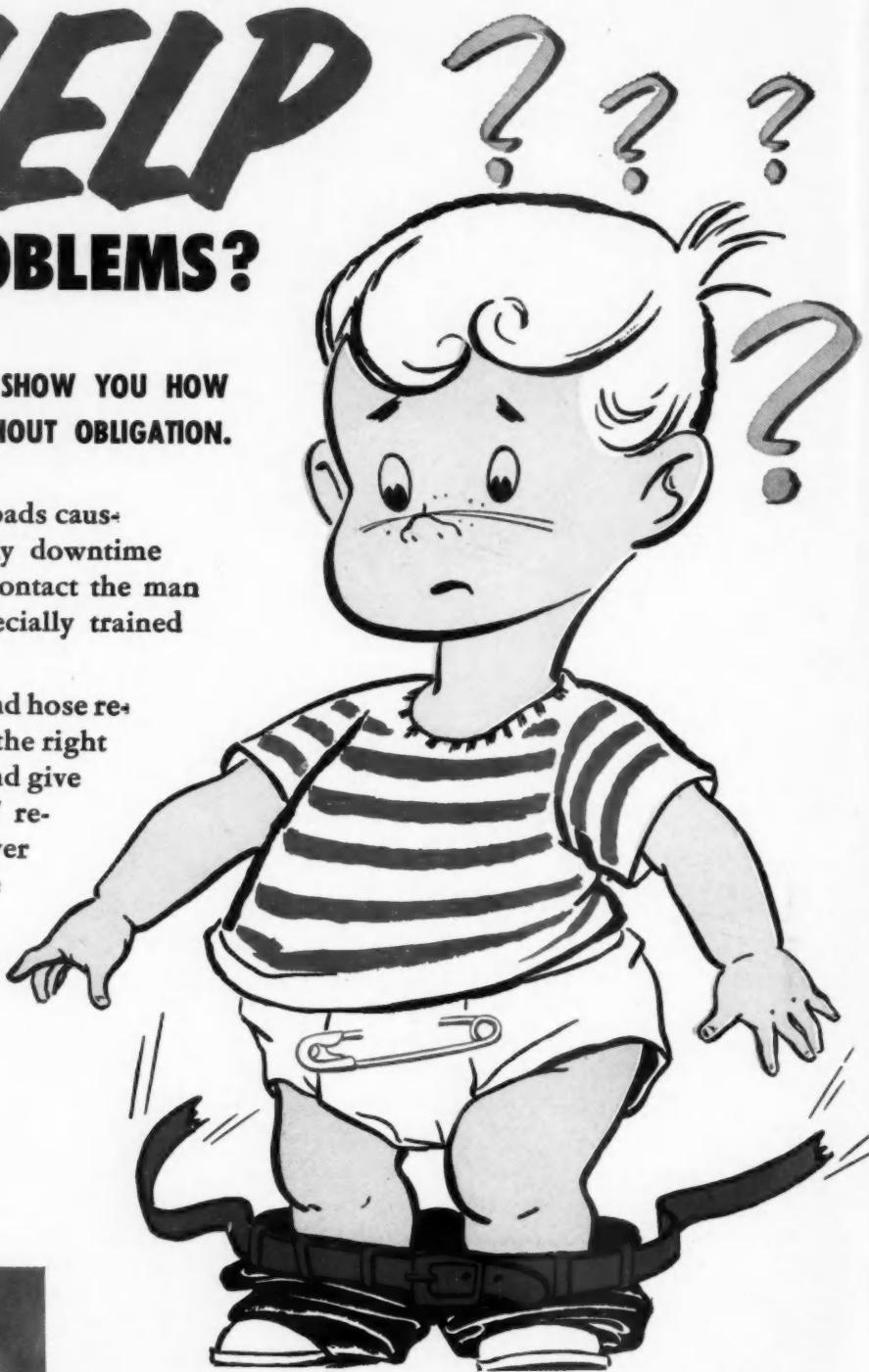
Dayton Steel products are serviced and distributed by members of the National Wheel & Rim Association.

NEED HELP ON BELT PROBLEMS?

LET A DAYTON FLEET ENGINEER SHOW YOU HOW TO CUT OPERATING COSTS, WITHOUT OBLIGATION.

When belt failures hold up payloads causing heavy losses through costly downtime and increasing maintenance—contact the man with the answers, Dayton's specially trained Fleet Engineer.

He'll survey your fleet's belt and hose requirements, make sure you have the right equipment, properly installed, and give advice on meeting your *special* requirements. What he can't answer he'll find out for you from the entire Dayton Automotive Engineering Staff. Arrange to have him call through your Dayton jobber. You'll be glad you did!



© D.R. 1955

DAYTON COG-BELTS* ARE THE FIRST STEP!

More and more fleets are finding Dayton Cog-Belts the solution to high cost operation. Bending easily, because of the patented, molded cogs, Dayton's run cooler, resist heat build-up and give thousands of extra service miles. Dayton Rubber Co., Auto. Div., Dayton 1, Ohio.

*T.M.

GOLDEN JUBILEE
Dayton Rubber
YEARS OF PROGRESS

World's Largest Manufacturer of V-Belts

EATONITE
VALVE SEAT
INSERTS



EATON
Zero-Lash
HYDRAULIC
VALVE LIFTERS

5 Eaton Developments that Increase Valve Life



EATON
FREE-VALVES



EATONITE-FACED
VALVES



EATON
SODIUM-COOLED
VALVES

EATON

—VALVE AND SAGINAW DIVISIONS—
MANUFACTURING COMPANY
9771 FRENCH ROAD • DETROIT 13, MICHIGAN

 **PRODUCTS:** Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings • Springtites • Spring Washers • Cold Drawn Steel Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

The Only Cure for

PREVENT THIS



WITH



DUALOY

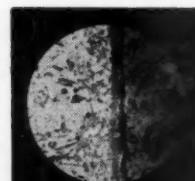
TOP RING GROOVE
WEAR AND FAILURE IS
DUALOY

**the first successful bi-metallic
molecularly bonded piston**

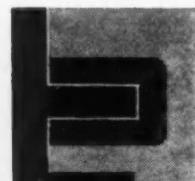
If you expect to get long life and trouble-free performance from heavy-duty pistons, then you must use pistons that were designed to meet the heavy-duty requirements of today's engines.

Don't expect pistons designed for yesterday's engines to stand up under the forces of compression and combustion in today's engines. Just as you would not expect a boy to do a man's job, neither should you expect a piston that was designed for an engine in the growing days of highway transport, to do the job required in the heavy-duty requirements of today's highway giants.

DUALOY is designed to eliminate the cause of top ring groove failures in today's heavy-duty engines. The molecularly bonded Ni-resist insert prevents excessive wear in the top ring groove. There are records of individual rigs up to 500,000 miles, and fleet averages of over 250,000 miles.



Photomicrograph of
Bi-metallic Molecular Bond



Enlarged Cutaway of
Ni-resist Ring Groove

BUY DUALOY — THE PISTON OF PROVEN PERFORMANCE

MANUFACTURED BY

UNITED ENGINE AND MACHINE COMPANY

310 PREDA STREET • SAN LEANDRO, CALIFORNIA

in filko caps and rotors...

the Quality Glow

of chemurgic perfection!



more than a replacement part
... a true improvement
in ignition



FILKO

*The Crown Jewels
of Ignition®*

AN AURA OF CROWN JEWEL
QUALITY surrounds every Filko cap
and rotor. Especially true in Filko
Heavy-Duty units where each one reflects
the brilliant application of modern
chemurgic progress to Crown Jewel
design and production.

Special enriched Filko phenolics are
specifically compounded to meet severe
service demands of commercial operations.
Matchless Filko facilities automatically
precision-process each jewel to assure
maximum density and uniformity.

Thus, Filko's specific specialization is
your assurance of superiority. Whether your
needs call for ultra-precision Matched
Sets... or individual replacement caps
and rotors—with Filko... all are truly
the "Crown Jewels of Perfection"!



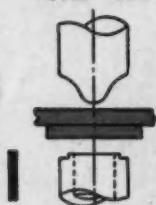
F. & B. Mfg. Co.
4248 W. Chicago Ave., Chicago 51, Illinois
Warehouses in: Los Angeles, Oakland,
Miami, Fort Worth, New York,
Boston, Cleveland, Atlanta,
Lubbock, Little Rock.

PATENTED BUDD INVENTION
FASTENS RIM TO DISC TO
PRODUCE SAFE, CERTAIN
TUBELESS TIRE TRUCK WHEEL

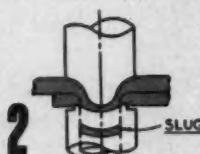
No rivet holes—no leaks—strongest union

The Budd extruded rivet which secures the rim to the disc, without perforating the rim, is produced in two steps, as follows:

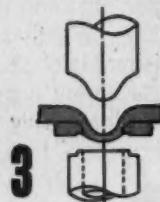
STEP ONE



Base of rim (upper metal) and of disc (lower metal) are placed in press.

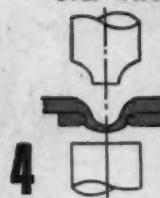


Male punch, with downward stroke into female die, punches slug out of disc, forces rim metal into orifice, and compresses disc metal to form facing cavities.



Male punch raised to show result.

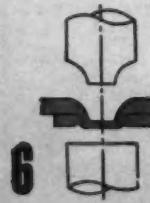
STEP TWO



Upper punch similar to previous punch, but lower die replaced by an anvil.



Male punch descends forcing metal against anvil, and squeezing rim metal laterally into the cavities formed as shown in figure 2.



Completed extruded rivet between rim and disc, with no hole in the rim—guaranteed leakproof.

first production order for tubeless tire truck wheel

Budd

Budd g

For its 40 tractor units tubeless truck Budd has supply the a product

These who wanted product. It is in manufac There is leakage.



Typical Volume Van
Fruehauf trailer,
ordered by Burlington
Truck Lines, built of
stainless steel
components
manufactured by
Budd.



deckwheels

Budd guaranteed leakproof wheels with exclusive patented extruded rivet construction

For its 400 new stainless steel trailers, and 140 new tractor units Burlington Truck Lines specified Budd tubeless tire wheels. They have all been delivered and Budd has thus become the first manufacturer to supply the industry with tubeless tire truck wheels on a production basis.

These wheels have rims riveted to the disc by a patented process which makes no holes whatever in the rim. It is a process we have been using for five years in manufacturing 7,000,000 passenger car wheels. *There is no way for a rivet to loosen and cause air leakage.*

It is the most advanced method of tubeless truck wheel rim attachment—safe and completely sure. And only Budd wheels have it.

Whether you are purchasing new hauling equipment, or changing over present equipment to obtain the advantages of tubeless tires as many fleet owners are planning to do, specify Budd wheels with extruded rivet construction. For safety. For certainty.

The Budd Company, Detroit 15



ANCHORS AWEIGH

for your fleet

When your equipment is fitted with SCANDINAVIA ZT Brake Blocks, you are assured of low-cost-per-mile brake block maintenance. Whether your problem is brake drum heat checking or more positive stopping, SCANDINAVIA ZT Brake Blocks are the answer!

On the next reline, test-install this remarkable Brake Block that has been endorsed by many leading American motor truck operators.

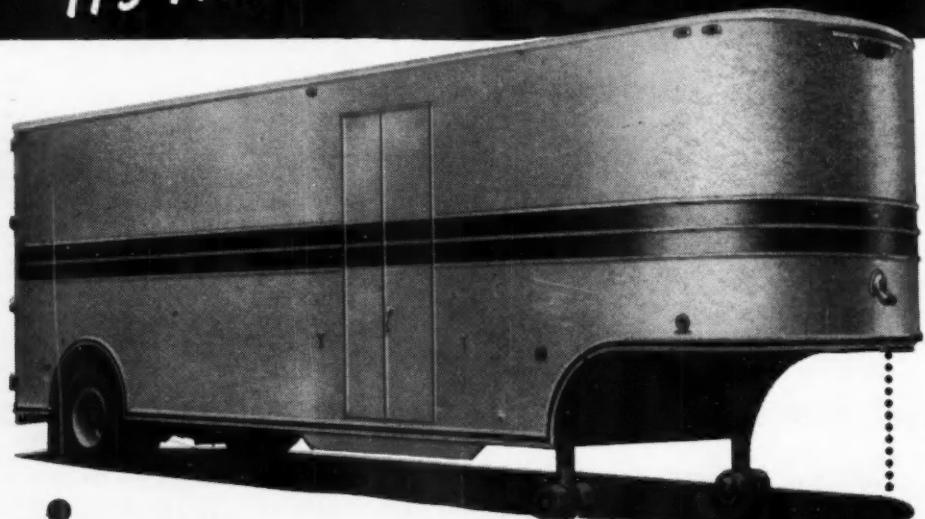
BRAKE
BLOCKS

• SCANDINAVIA •

BRAKE
LININGS

DIVISION OF SCANDINAVIA BELTING COMPANY, WAREHOUSE: 250 CENTRAL AVENUE, NEWARK 1, N. J.
BOSTON • OFFICE: 744 BROAD STREET, NEWARK 1, N. J. PLANT: CHARLOTTE 1, N. C. • CLEVELAND

A LEADER IN GRAMM
ITS FIELD WAREHOUSE VANS



DESIGNED
BY MOVERS . . .
ACCEPTED
BY MOVERS . . .

Low center of gravity, easy pulling, easy handling, extra safety.

Weather tightness . . . sealed joints, waterproof interior, rubber weatherstripping on all doors.

Recessed hardware, recessed rope cleats, strong metal covered wheelhouses.

Write for additional information.

Compare the cubic content of your present trailer . . . cubic feet . . . vs. . . . the GRAMM 32' Warehouse Van — 18" drop of 1895 cubic feet. Cubic content is important to you!

GRAMM warehouse vans are engineered and designed for capacity, safety and economy. Rugged day-in and day-out "COAST-TO-COAST" service is true evidence of the dependable construction of GRAMM vans.

DISTRIBUTORS IN PRINCIPAL CITIES

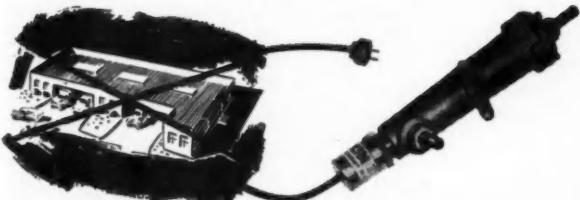
GRAMM trailer corp. LIMA, OHIO P. O. BOX C

Built to specifications based upon research and actual experience data from users.

RIGID
METALS

Why
KIM
 Hotstart

electric pre-heater
 pulls down high winter costs



Quick, Easy Starts. Engine is already warmed up, with full power, ready for the road.



Via Electric Plug-in, KIM draws cold water from engine, heats it, forces it back into engine at another point.

KIM HOTSTART electric pre-heaters are sold and installed by leading automotive suppliers. Get the jump on cold weather trouble by seeing them for detailed information, or write for literature.

KIM HOTSTART MANUFACTURING CO.
 West 917 Broadway, Spokane 1, Washington

NOW

Pre-Strengthened Sheets!

For Increased Payloads!

In Ferrous and Non-Ferrous Metals, Sheet, Strip or Coil, Solid or Perforated.

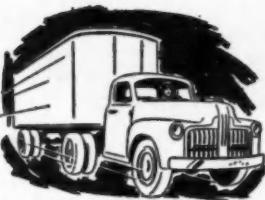
RIGID-tex

The Design Strengthened Metal
 40 Striking Designs Available
 See SWEETS Design File 1a/Ri or
 write us direct for more information

Pattern 6-WL

RIGIDIZED METALS CORPORATION

7188 OHIO STREET • BUFFALO 3, N.Y.
 Sales Representatives in Principal Cities



TOUGH DUTY TRUCK OPERATION
 REQUIRES TOUGH DUTY CLUTCH PLATES



I KNOW THAT ... AND ACCURATE TOUGH DUTY CLUTCH PLATES ARE SPECIALLY DESIGNED TO GIVE YOU MILES MORE WEAR... MONTHS MORE PERFORMANCE!

Yes, you're assured of miles more wear... months more performance with Accurate truck clutch plates. There's a big reason for it, too—each Accurate clutch plate has special steels to carry the extra load of tough duty operation, combined with heat-resistant facings of superior quality. With Accurate's self-aligning pointed hub splines, you'll find installations are easier and faster, too. Made to precise O.E.M. specifications, Accurate has a complete line of clutches for every line of trucks.

Sold or economically exchanged by your nearby Accurate Jobber.

ACCURATE PARTS MANUFACTURING CO.
 1600 S. Ashland Avenue, Chicago 8, Illinois

Accurate
 TOUGH DUTY TRUCK CLUTCHES



It Pays to Protect
Your Payload With

THERMO KING

TRUCK REFRIGERATION

Ask About the New 1955
THERMO KING MODELS

U. S. THERMO CONTROL CO.
44 So. 12th St., Minneapolis 3, Minn.

**RECLAIM YOUR DIESEL
INJECTION COMPONENTS**
HANCOCK'S Service is complete

G.M.C.
Injectors
Plungers & Bushings

CAT.
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CUMMINS
Injectors
Replungered Bodies

**Write for
Catalog and Name of
Your Nearest Dealer**

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DIESEL SERVICE CO.
325 Walnut St.
Findlay, Ohio

**YOUNGSTOWN STEEL CAR
CORPORATION**
NILES, OHIO

Large scale producers of . . . big weldments on a production basis—die pressed channels for bus, truck and trailer chassis—railway cars, repairs and parts — miscellaneous heavy presswork.

Brown
aluminum trailers

Series H
Write for Folder H-14

**GUARANTEED
LIGHT WEIGHT**

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HEAVY DUTY
ELECTRIC DRILLS

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LIQUID EYE®
FUEL INDICATORS** ABOUT DIESEL
POWER LOSS?

are being installed on more and more Diesel tractors because:

- Any air in the fuel line can be seen.
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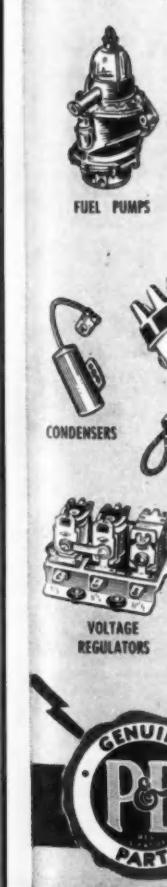
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March.	Cu. Ft.
Model	Cap.
8	292
10	365
12	438



The NEW

MERCHANDISER

BOYERTOWN
"Better Built" Delivery Bodies



Built of Hi-Tensile Steel
With These New Features

Merch.	Cu. Ft.	Interior		
		Cap.	L.	W.
8	292	96"	74"	71"
10	365	120"	74"	71"
12	438	144"	74"	71"

Write or Phone 7-2146

See Why Boyertown Bodies are "Better Built", visit,

New Advanced Design Front End.
Built of Hi-Tensile, high strength, Low Weight, Steel.
Windshield & Side Glass Increased by 626 Sq. In.

Engineered for LOW COST—SIMPLIFIED Engine Service, and Body Sub-Assembly and Parts Replacement.

Increased Load Space Width to 74".
Driver's Seat with Fold-down Back and Finger-Tip Adjustment.

OPTIONAL—Aluminum Skin Inside and Outside.

OPTIONAL—Refrigeration Systems.

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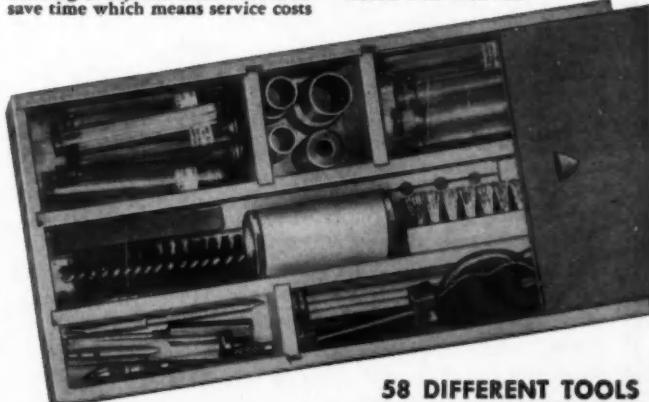
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Each tool has been specifically designed for a particular cleaning operation which cannot be done properly with ordinary tools. Besides insuring safe and efficient cleaning of injector units these tools save time which means service costs

are lower, profits are up. Available individually or in kits containing the tools recommended for particular types or related lines of injection units. Complete instructions furnished with each kit.



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20 POPULAR KIT ASSORTMENTS

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to Know . . .
About Cleaning
Diesel Nozzles
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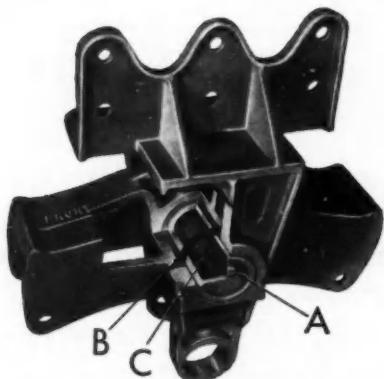
- Low
- Frame
- Progress
- Positive
- Easy.

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35,880 POUNDS MORE PAYLOAD!*

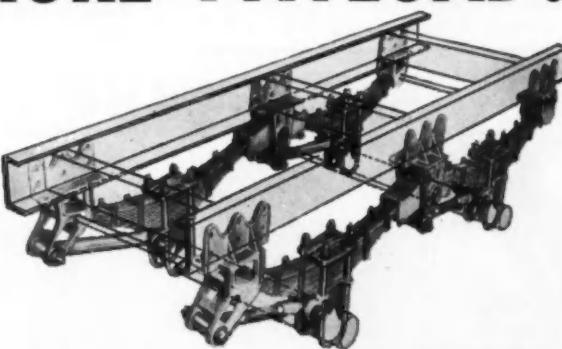


FILL IT! FORGET IT!

Inside the equalizer pin (C), 6/10ths of a pint of lubrication is retained to last more than six months of rugged service. This reservoir is filled by removing bolt (A). This "O" ring (B) fits securely around the pin and inside heavy duty bronze bushing giving a tight seal.

OTHER FEATURES

- Low initial cost
- Frame attachment by welding or bolting
- Progressive type spring hangers
- Positive adjustable torque arms that maintain alignment
- Easy, quick installation



REDUCE MAINTENANCE! BUILD PROFITS!

This new tandem is lighter than previous models, thereby allowing greater payload every mile! Cargo damage is virtually eliminated, too. Progressive type spring mechanisms and fully rubber bushed adjustable torque arms reduce brake shock, improve roadability, protect your equipment from excessive wear and tear.

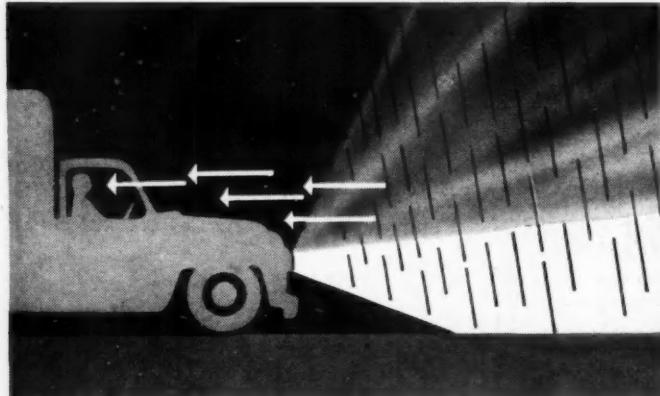
*Based on 3 trips per week; 52 weeks per year.

available at trailer manufacturers and distributors

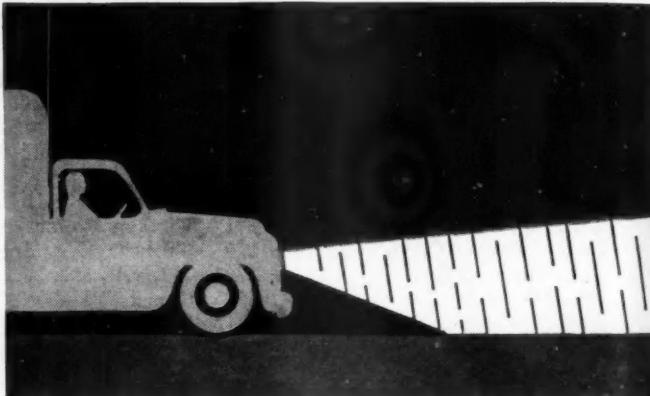
Manufactured by
Hutchens & Son Metal Products, Inc.
Springfield, Missouri

REDUCE NIGHT-DRIVING FATIGUE!

ONLY new Westinghouse SAFE-T-BEAM™ Headlamps
stop eye-tiring bounce-back glare
on both High Beam and Low Beam!

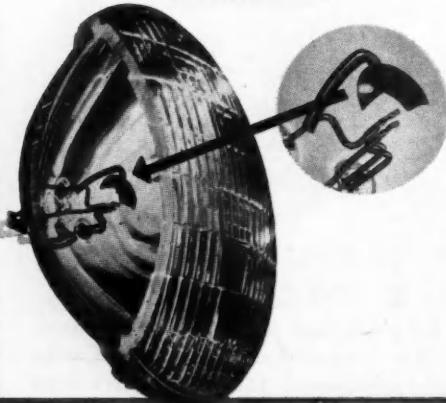


All other new headlamps: Stray upper light from High Beam strikes fog, rain, snow, dust . . . bounces dangerous, blinding glare back into driver's eyes.



New Westinghouse SAFE-T-BEAM Headlamps: Exclusive 2-Beam Glare Shield screens stray upper light from High Beam as well as from Low Beam . . . to eliminate bounce-back glare! Only new Westinghouse SAFE-T-BEAM Headlamps let the driver select the beam, High or Low, that best suits road conditions—with full glare protection on both beams!

EXCLUSIVE 2-BEAM GLARE SHIELD GIVES FULL-TIME GLARE PROTECTION!



New Westinghouse SAFE-T-BEAM Headlamps are the only headlamps that eliminate eye-tiring glare from both High and Low Beams. All other headlamps limit driver to Low Beam in fog, rain, snow, dust . . . thus visibility is cut when it's needed most, drivers become fatigued, safety is impaired, time is lost, schedules are off. But, with SAFE-T-BEAM Headlamps, the 2-Beam Glare Shield stops bounce-back glare *no matter which beam the driver uses!* Give your fleet this closest approach yet to *daylight driving safety at night . . . re-equip with SAFE-T-BEAM Headlamps now!*

Better see-ability on clear nights too!

- Up to 25% more light on both beams!
- Beams up to 80' longer!
- More light on the right!

- * Greatest safety development since sealed beams.
- * Endorsed by Motor Vehicle Administrators.
- * Installed and aimed in 10 minutes.
- * 6 Volt and 12 Volt.



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METALEX

Willard's exclusive
patented grid alloy

now combats both major causes of battery failure

1 Overcharge 2 Undercharge

(Positive-grid Corrosion)

(Sulphation)



Typical of Willard Bus Batteries, designed specifically for low-cost fleet operation, is this Willard 6-48-160, 160-ampere-hour battery with Metalex Grids, used exclusively by many bus fleets in both urban and inter-city service. Available Charged Bone-Dry if desired.



Willard

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WILLARD STORAGE BATTERY COMPANY

Quick service from factories in: Cleveland • Los Angeles • Dallas • Memphis • Portland • Allentown • Toronto • Calgary • Denver
Minneapolis • Omaha • Kansas City • Fairfield • Aurora • Atlanta



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Wherever hard-driving, cost and profit-minded men go to work . . . there you'll find massive, powerful FWDs shouldering their way through the job . . . getting it done quickly, safely, efficiently—beating work-schedules that put ordinary trucks into the shop for repairs.

For FWD is "More Than Just a Truck!" This basic unit of heavy-duty driving power opens up a whole new concept in on-the-job achievement . . . custom-engineered to out-perform mass produced, mass marketed trucks on the basis of power, dependability and economy of operation.

FWD's Advanced Math-Matic Design correctly proportions power to weight on front and rear axles, making every pound of load help haul itself! Each wheel's cargo only makes it grip harder, turning every ounce of power into greater controllable traction and steering safety.

- Higher power-weight ratio than any ordinary truck!
- Up to 82% greater tractive ability on or off the road!
- 30 to 37% longer tire life!
- Greatest operating safety under any driving condition!
- Weight distribution permits larger legal payload!
- Fuel consumption no greater than in ordinary trucks!

**FOUR AND SIX WHEEL DRIVE MODELS
FROM 14,500 TO 60,000 LBS. G. V. W.**

Write today for FREE, ILLUSTRATED BROCHURE on units in the weight classification you normally use. We'll also include your copy of "The Truck That Went To College" — detailed data on 7 years' intensive truck research conducted by the University of Wisconsin's College of Engineering.

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THE FOUR WHEEL DRIVE AUTO COMPANY, CLINTONVILLE, WISCONSIN, Canadian Factory, KITCHENER, ONTARIO

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